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The Status of the Janitor in the Smaller Schools of Indiana

C. V. McElhany

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THE STATUS OF THE JANITOR IN THE
SMALLER SCHOOLS OF INDIANA

BY
H. Y. BULLOCK

THE STATUS OF THE JANITOR IN THE
SMALLER SCHOOLS OF INDIANA

AS THE REQUIREMENTS FOR THE DEGREE
MASTER OF EDUCATION IN INDIANA

DEPARTMENT OF EDUCATION
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THE STATUS OF THE JANITOR IN THE
SMALLER SCHOOLS OF INDIANA

BY
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of the Requirements for the Degree
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¹ Gardner, John M., The School Janitor, Philadelphia, 1909.
U. S. Bureau of Education.

² Finkle, Ben. T., The School Janitor, Master's Thesis,
U. of Indiana, 1919.

³ Finkelstein, M. T., Survey, C. E., Finkelstein, M. T.,
Elementary and Middle School Janitors, Columbia University, 1929.

⁴ Finkelstein, M. T., Janitorial Service in Public and
Charter School, American School Board Journal, Vol. 77,
p. 79 (1930).

THE STATUS OF THE JANITOR IN THE
SMALLER SCHOOLS OF INDIANA

CHAPTER I INTRODUCTION

BACKGROUND Many articles have been written concerning the school janitor and how he should perform his duties. There have been numerous surveys of the janitor and his work, but few have been found that deal with the subject in a manner similar to this study. Surveys have been conducted by, Garber¹, Poince², Engelhardt, Reeves, and Womrath³. These investigations have been general in scope and have been instrumental in establishing certain acceptable and desirable standards of janitorial service. Hershman⁴ has made a study of a single county in Ohio, which of course is not representative of that entire state.

¹ Garber, John A., The School Janitor. Bull. 24. 1922. U. S. Bureau of Education.

² Poince, Geo. I., The School Janitor. Master's Thesis. U. of Indiana. 1917.

³ Engelhardt, H. T.; Reeves, C. E.; Womrath, G. E.; Standards for Public School Janitors. Columbia University. 1926

⁴ Hershman, H. W.; Janitorial Service for Village and Consolidated Schools. American School Board Journal. Vol. 73 p. 76 (1926)

Many articles have been written about the health and safety of children and their importance to future society. Indeed, much is being done that is definitely intended to be helpful along these lines, but very little, if anything, has been done in the particular field which deals with the janitor and his relation to the pupils and teachers in the smaller schools of Indiana.

SETTING Dr. Aley has said, "The school janitor is the most important official connected with the school."¹ How true this seems when we realize that the health of the children is partly dependent upon the janitor's care of the school building in which they are housed.

Not more than forty or fifty years ago schoolhouses were of the one-room type and the janitor problem was not so paramount. The janitorial problems became more complex, with the construction of \$2,000,000.00 worth of new school buildings in Indiana since 1911.² These new buildings were planned with the idea that they were for the child, and conveniences built into them were for the accommodation of the child.

There are several hundred one-room schools in Indiana³ in which the janitor's problems are not complex. Perhaps these problems are cared for, in most cases, by the teacher.

¹ Indiana State Board of Health. School Janitors. Bull. (No date or number given) p.1

² Indiana State Board of Health. School Janitors. Bull. (No date or number given) p. 1

³ Roy P. Wischert., Indiana School Directory, 1932

In such cases the rooms are kept comparably clean, depending upon the teachers' standards in that respect. There are, however, problems, of washing windows, as well as other problems, that are totally neglected. In several instances the one-room teacher secures the services of a pupil to build the fires and sweep the room.

Again, the one-room school is becoming a thing of the past in Indiana and the janitorial problems within this type of school are decreasing. While the janitorial problems of the one-room type are diminishing, the janitorial problems of the consolidated schools are increasing, due to the fact that more children are attending school in the consolidated buildings.

There has been much written on the construction of the new school building and how they should be built. There are requirements that must be met. These requirements, in Indiana, are fixed by the state. There has been little said and less done in the matter of good janitors for these new buildings. The state of Indiana does not specify requirements or qualifications for the janitor. If all this money (\$2,000,000.00 previously mentioned) is to be paid out for the construction of fine school buildings, it seems reasonable to believe that it would be wise to spend more thought and more money on the janitor of the school. Many school buildings are the pride of the community and they should be, since they are usually the community centers also.

STATEMENT OF THE PROBLEM School janitor service has been criticized, unjustly or otherwise, upon various grounds. Among the most frequent criticisms directed against the school janitor and the janitorial service are the following, (1) no special training for his work, (2) too frequent complaints that political favoritism is shown in his selection and appointment, (3) lack of administration and supervision, and (4) inefficient methods and poor results. The purpose of this investigation is to verify or deny as far as possible, within the scope of the study, the criticisms listed above and to suggest remedial measures where needed.

It is suggested here that so-called standardized methods and procedures of janitor service in the schools are not closed issues, incapable of being improved. They are merely methods which are generally accepted as representing the results of careful experimentation of various phases of the subject up to date. Standardized methods are offered by Engelhardt, Reeves, and Womrath, as a basis of departure not as the last word on janitor service, but with the hope that they may prove a challenge to school officials to further efforts in the improvement of the janitor service.

REASONS FOR MAKING THE STUDY. It seems that the relative importance of the janitor is not always appreciated. We are prone to measure values in terms of dollars and cents

and very often forget the health and safety of the occupants of the school building. Any method of selecting the janitor, that does not take into consideration the potential moral influence of the janitor upon the lives of the children in the school is probably wrong. One of the objectives of education is to develop character. In this connection, Henderson says,

"We call the first part of the educational aim many-sidedness of interest, which must be distinguished from its exaggeration--dabbling in many things.

This must be proportionate many-sidedness. We shall thus get the meaning of this common expression, 'Harmonious cultivation of all the powers.

This many-sidedness, according to Herbart finds its function of furnishing the material in thought and feeling upon which moral strength of character may be found."¹

Since very little comprehensive study has been made in Indiana similar to this investigation, superintendents, principals, teachers, parents, children and even trustees and janitors may be benefited by such an investigation.

We cannot measure health, safety, and character in terms of dollars and cents. We should not overlook the importance of the janitor and his influence upon pupils. We should have better methods, than are now being used, in selecting the janitor of the schools.

¹ Henderson, E. N., Textbook in Principles of Education. p.1 4. New York. Macmillan Co. 1921.

SOURCE OF INFORMATION Information dealing with the subject of janitors and janitorial-engineering services was obtained in two ways; first, by reviewing all available literature on the subject. No books were found dealing with the subject exclusively. A chapter in one book may deal with the health and hygiene of the school, and another book may contain a chapter on the duties of the janitor. A second source of information was the answers to a questionnaire¹ sent to four hundred fifty principals, of the smaller schools in Indiana. Of these four hundred fifty principals, three hundred ten answered the questions and returned the questionnaires. This splendid return confirms the belief that the subject is one in which school men are interested.

LIMITATIONS OF THE STUDY This study is limited to the smaller schools of the state of Indiana. Smaller schools in this study are schools having an enrollment of less than one thousand students. The investigation is not limited to the consolidated schools but includes small town schools as well. The word "principal" in the questionnaire refers to the head of the school.

¹ See appendix for copy of the questionnaire.

CHAPTER II

INFLUENCE OF LAST ELECTION(1930) ON PRESENT SCHOOL BOARDS AND TRUSTEES.

TABLE I. CHANGE OF TRUSTEES IN SCHOOLS OPERATING
ONLY UNDER TRUSTEES.

The questionnaire upon which this study is based, was dated January 5, 1931, following a general election in November 1930. Therefore it seemed advisable to insert questions, 1, 2, and 3 at the beginning of the questionnaire. The answers were to be based upon the facts concerning the present janitor, and the trustee who hired him. This was done to determine the friendship, kinship and political influence, or any other factors influencing the selection of the janitor, that may have biased the selection made by the trustee. After tabulating the returns, it was quite evident that such questions as, "Did your trusteeship change with the past election?", "Did he serve two terms ? ", and "Did party control change? " were quite necessary to enable one to get a valid conclusion from the answers to the questions that were to follow. Tables I and II show that principals could have been right or they could have been wrong at least 213 times, if the answers had been according to their present trustee, since there were that many changes in trustees out of the 310 returns received and recorded. Of course, the answers could have been right

with their present trustee, but since he is new, the conditions effecting the selection of the present janitor, were not known by the new trustee at the time the questionnaire was filled out.

TABLE I. CHANGE OF TRUSTEES IN SCHOOLS OPERATING ONLY UNDER TRUSTEE.

New Trustees elected	204
Trustees reelected	61
No reports	2
Total	267

Table I shows that 204 or 76.41 per cent of the total number of schools operating only under the township trustee have changed trustees at the last election (November, 1930). Sixty-one or 22.84 per cent did not change trustees while 2 or only .75 per cent of the 267 schools did not answer the question.

TABLE II. CHANGE OF TRUSTEES IN SCHOOLS OPERATING UNDER SCHOOL BOARDS.

New trustees elected	9
Trustees reelected	11
No reports	23
Total	43

Table II is inserted for the sake of segregating the schools operating under a school board, which may or may not, include the township trustee.

The fact that those who did not answer the question in Table II did not have a trustee upon which to report, indicates that more than half the schools in Table II reporting school boards did not include the trustee as a member. This fact was clearly indicated by notations on the questionnaires. Fifty-three and forty-nine hundredths per cent of the schools operating under school boards did not include trustees as members of the board.

Of the school boards that do include the trustee as a member, 9 or 45 per cent reported a change therein. Eleven or 55 per cent being unchanged. Of the 23 not stating, in Table II, a few stated that either one or two members of the school board had changed with the last election.

TABLE III. TENURE OF TRUSTEES.

Trustees serving only one term	183
Trustees serving two terms	75
No reports	52
Total	310

In Table III the number stating the trustee had served one term represents 59.03 per cent of the total number of questionnaires tabulated. The number stating the trustee

had served two terms is 34.19 per cent, while the number who did not reply to the question was 16.78 per cent of the whole.

Of the 20 schools operating under the school board and including the township trustee as a member of that board, 11 served one term and 9 had served two terms. Therefore these numbers must be taken into consideration to determine the exact per cent of the trustees not members of a school board who had served two terms.

TABLE IV. TENURE OF TRUSTEES IN SYSTEMS OPERATING ONLY UNDER THE TRUSTEE.

Item one in Table III less 11, the number of trustees serving only one term in schools operated under a school board.	172
Item two in Table III less 9, the number of trustees serving two terms in schools operating under a school board.	66
Item three in Table III less 23, the number of schools not reporting under the school board.	29
Total	267

The per cents derived from Table IV show 64.42 per cent served one term, 24.72 per cent of the trustees served two terms and the number not replying, 10.86 per cent. A comparison of per cents derived from Table III and Table IV, shows an increase in the number of trustees serving one term, and those serving two terms while the number not reporting to the question decreases. This comparison also shows that the number of schools that are controlled by school boards

affects, to a noticeable degree, the per cents of schools having the same trustee two terms, similarly the ones serving one term.

The number of changes in trustees and the fact that a small per cent of them had served two terms shows that there may have been quite a dissatisfaction with the former trustees. If not dissatisfaction, then politics or other outside influences entered into the change. The problems of this study include the effects of politics upon the selection and the tenure of the janitors. Politics as a factor in tenure of the janitors will be shown in a later chapter.

Changes in party control, found in Table V, is in close relation with the response found in Tables I and II.

TABLE V CHANGES IN PARTY CONTROL WITH LAST ELECTION.

Changes made	137
No change made	125
No reports	48
Total	310

Table V indicates that 44.19 per cent of the school units tabulated, reported a change had been made in party control. One hundred twenty-five or 40.32 per cent reported a change had not been made in party control, while 48 or 15.49 per cent did not respond to the question. The per cent

of changes in party control 44.19 , was much less than the per cent of changes in trustees, 68.71 per cent, as shown in Tables I and II. This indicates that all the changes was not brought about by the change of the party in power.

SUMMARY. Most of the trustees that are now in office are new. The janitors in a majority of the schools were not hired by the present trustee. Only about 25 per cent of the trustees served two terms; therefore only about 25 per cent of the replies to the questionnaires were based on the trustee who had served two terms. Even though there was a large number of changes in the trustees, slightly more than half of them were in schools where party in control changed.

The principal of the building. The relation existing between the janitor and the principal is significantly stated in the questionnaires returned by the janitor and the trustee, which are in part,

"I find the said party of the school board agree to pay me fully all duties of janitor, as stated in the rules of the Board of Education of the Township of York, under the supervision of the principal as directed by the Township Council."

In response to all queries, available concerning relations between janitors and trustees, the following was the only statement received: "The janitor and the trustee are in a very close relation and the janitor is in a very close relation to the trustee and the trustee is in a very close relation to the janitor."

The appendix for copy of janitors contracts.

CHAPTER III

SUPERVISION OF JANITORS

Janitors in small schools have a general responsibility to the county superintendent of schools. This involves a responsibility for the maintenance of high standards of service and the adherence to the rules and regulations adopted for the entire county system by the County Board of Education. The County Board of Education is made up of the trustees of the county. The janitors are also directly responsible to the principal of the building. The relation existing between the janitor and the principal is specifically stated in the written contract entered into by the janitor and the trustee, which says in part,

"that the said party of the second part agrees to perform faithfully all duties of such janitor, as specified in the rules of the County Board of Education or by the township trustee, under the supervision of the principal as directed by the township trustee".¹

In fairness to all school officials concerned definite relations should be established to the end that efficient administration and supervision of the service may be main-

¹ See appendix for copy of Janitors contract.

tained. Janitors must know to whom they may look for approval of their work and for suggestions for its improvement. Trustees should obtain the services of the best men possible and then hold them responsible to the principal in charge of the building for the character of the work done. Table VI shows the answers to the questionnaire on this item.

TABLE VI. TO WHOM ARE JANITORS RESPONSIBLE.

Principal	174
Principal and trustee	131
Trustee	8
Principal and teachers	3
Teachers	1
No one	1
No reports	2
Total	310

The above Table shows that 56.13 per cent of the janitors are supervised by the principal or if in a town system, by the superintendent, both of whom, in this study, are considered principals. The principal and trustee supervise 39.03 per cent of the janitors; 2.58 per cent are supervised by the trustee alone; and .97 per cent by the teachers and principal. Only 2, or .65 per cent did not answer this question. These per cents show that 96.13 per cent are either directly or indirectly responsible to the principal of the building. Perhaps this is as it should be inasmuch as the principal is

responsible for the pupils in the school while they are under the care of school authority. In the Administrative Handbook of Indiana High Schools, 1928, it is clearly stated that,

"The janitor should be responsible to the superintendent, principal and head janitor, (if there is one)

These officials should distribute their responsibilities with respect to the supervision of the janitor service as follows:

(1) The superintendent should work out the general rules and regulations relating to the janitor service for the entire system.

(2) The principals should supervise the janitor service in his building conforming with the general rules and regulations.

(3) The head janitor should enforce the rules and regulations, determine the volume of work to be performed, the time factor involved and man power required to properly perform the work."¹

All this, of course, is true, but the smaller school, previously described, usually has no head janitor. We might say, also, that the smaller school has no superintendent, as interpreted in the above quotation. Our county superintendents are guided in their supervision of the schools of the county by the County Boards of Education.

It seems that our schools might function more efficiently if our county superintendents would act as the superintendent mentioned in the above quotation. In that capacity the county superintendent would formulate rules and regulations

¹ Indiana State Department of Education. Administrative Handbook for Indiana High Schools. Bull. 100. p. 90

regarding the schools of the county under his jurisdiction. The superintendent or principal of the town systems, and the principals of the consolidated buildings could enforce the rules and regulations established by the county superintendent. By so doing, it seems, the smaller schools of the state, or at least of a county as a unit, would have a better regulated system of janitor service, both duties and supervision.

The per cents, shown in the descriptive material, following Table VI are much the same as those given by John Absolam Garber¹ in a report on a number of the largest schools in the United States. His comment and Tables are as follows:

"There were 1,065 replies received to the question, 'To whom are janitors directly responsible?' In 814 of the cities reporting, or about 76 per cent, janitors are responsible to the superintendent of schools or the principal, or both; in 125 cases, nearly 12 per cent, they are responsible directly to the Board of Education as a whole, or to one of its committees---the committee of janitors, on building and grounds, on repairs, etc. In 48 cities the janitors are responsible directly to the superintendent or custodian of buildings; in 29 cities to the supervisor of janitors or head janitors; and 20 cities to the business manager. Table VII contains a complete summary of all the reports received."

¹ Garber, John Absolam, The School Janitor. Bull. 24. 1922. U. S. Bureau of Education. p.20.

TABLE VII TO WHOM ARE JANITORS RESPONSIBLE

Superintendent of schools	530
Principal	167
Principal and superintendent	117
Ed. of Ed. or one of its committees	125
Superintendent or custodian of building	48
Supervisor of janitors, head janitor, or chief engineer	29
Business manager	20
Supervising principal	10
Sec't or clerk of Board	10
Superintendent of Maintenance and Equipment	3
Commissioner of Public Buildings	2
Truant officer	1
Teachers	2
"No one"	1
Total	1,065

Frequently the janitor receives orders from different persons in the school system. One person may give him orders to do a piece of work in a specified manner while another person may give him orders to do the task differently. From whom is the janitor of our schools to take orders? Table VIII shows the distribution of the answer to this question as they were given by the 310 schools represented in this study.

TABLE VIII. ORDERS GIVEN THE JANITOR.

By Whom	Frequency
Principal and trustee	160
Principal	117
Trustee	14
Principal, trustee and teachers	8
Principal and teachers	6
Principal, trustee and pupils	3
No reports	2

In many of our schools the janitor is hired for the school term only. In other cases he may be hired for a short time before the term opens and a short time after the term closes. In other schools the janitor may be hired for the entire year.

Table IX, taken from a former thesis reveals the per cent of the schools in Indiana which hire the janitor for the school year or a greater length term.

TABLE IX¹. LENGTH OF TIME THE JANITORS ARE HIRED.

School year	166
Entire year	71
School year plus two weeks	1
<hr/>	
Total	238

Table IX shows that only about 30 per cent of the schools maintain janitor service the entire year as against about 70 per cent for the school term only. It is pointed out by Mr. Wilson²,

"That a higher standard of service could be maintained by employing the janitor for the entire year. The arguments advanced in support of this claim are:

(1) The service of more capable men can be secured if they were assured of employment for the entire year.

(2) Attention may be given to the building and grounds during the school vacation.

¹ Wilson, C. E., The School Janitor. Master's Thesis. University of Wisconsin. 1927. p.9

² Ibid

From Table VIII it is found that 160, or 51.62 per cent of the janitors received their orders from the "principal and trustee"; 117 or 37.74 per cent from the principal; 14 or 4.52 per cent received orders only from the trustee; 6 or 1.94 per cent from the principal and teachers; 3 or .96 per cent received their orders from the principal, trustee and teachers. Less than 1 per cent of the schools did not state who gave orders to the janitor.

From Table VIII may be shown that the principal participated in more than 97 per cent of the orders given to the janitor. This per cent is a little higher than the per cent given for supervision of the janitors by principals, shown in Table VI. This fact is probably accounted for by the principal being on hand practically all the time and may be consulted by the janitor regarding the duties and orders given either by the principal or any other individuals or combinations of individuals as the case may be. It may be concluded, then, that the principal of the school is the one person who has more to do with the supervision and giving orders to the janitor than any other individual. Since this is the case, the principal assumes much of the authority and power of the trustee because the janitor is responsible directly to the trustee by contract.

A number of the principals stated that the trustee gave orders and supervised the janitor during the vacation.

(3) The school property may be protected at all times.

(4) It is conducive to longer tenure of position. A capable man will not leave his present position to accept employment in a school system for the school year only. Consequently, if the services of a capable janitor are obtained for the entire year, the tendency is to keep him in the service as long as he maintains desirable standards of work".

The principal is usually near the school sometime before and sometime after the school term. In such cases he may give orders and supervise the work of the janitor previous to the opening of school and after its close. Especially is it necessary for the principal to be near the school before the opening of the school year so that he may assist the janitor in preparing the building for the opening of the school.

All janitors should obey orders given them by proper authority. The janitor usually obeys the orders given him, by the principal. Table X illustrates this fact.

TABLE X. EXTENT TO WHICH JANITOR OBEYS ORDERS.

Orders are obeyed	239
Orders are "sometimes" obeyed	52
Orders are "seldom" obeyed	1
No reports	18
Total	310

The above Table X shows that in more than 77 per cent of the schools, represented in this study, the janitors do obey the orders given them by the proper authorities.

About 17 per cent stated "sometimes", which may be construed to mean that sometimes they do obey the orders given them and sometimes they do not obey them.

SUMMARY. According to the janitors contract, he is responsible to the principal in charge. Fifty-six and thirteen hundredths per cent of the janitors are supervised directly by the principal and 96.13 per cent are supervised either directly or indirectly by him. Ninety-four and eighty-four hundredths per cent of the janitors receive orders either directly or indirectly from the principal. The trustee, also, issues orders and supervises the janitor but in a great number of cases through the principal.

CHAPTER IV

TENURE OF JANITORS

The following Table XI, indicates that good janitors are probably as numerous as poor ones, if the tenure of the janitor in his present position may be accepted as a conclusive criterion.

TABLE XI. TENURE OF PRESENT JANITOR.

More than 4 years	120
4 years	59
3 years or voluntarily resigned	45
2 years	39
1 year	39
Less than 1 year	5
No reports	3
Total	310

Of the three hundred and ten schools returning the questionnaire, 38.71 per cent reported their janitor had held his present position more than four years; 19.03 per cent, four years; 14.52 per cent, three years; while only 12.58 per cent or about one eighth of the total number had held his present position either one or two years. Four of the five,

reporting less than one year, stated one month while the other one stated part of one year. Since the questionnaire was dated January 5, 1931, it seems quite possible that the new trustee could have caused the resignation of the janitor who held the position when he (new trustee) was elected. Four of the replies in the questionnaires indicated that such was the case.

Of those who served more than four years as janitors, 1 had served 5 years; 1 five and one-half years; 2 seven years; 2 twelve years; 1 fourteen years; 1 fifteen years; 1 eighteen years; 1 twenty years; 1 twenty-three years. One reported that two janitors had been there in the past quarter of a century and that they had either resigned on account of sickness or voluntarily retired.

Since 38.71 per cent of the janitors had served more than four years, it is very evident that they should have become efficient in that particular school plant. They should know how to operate the heating plant, the ventilating system and should have a comprehensive knowledge of the principles of each unit involved. Having acquired this knowledge, it would seem and probably is true, that these janitors could operate the school plants with less expense than could new janitors. On the basis of economy, then, it is worth while to have a janitor for several years. Perhaps the ages of the

applicants should have an influence upon the trustee in selecting the janitor. Further mention of age will be made in Chapter VI. A young man would have the tendency to become more efficient with experience and would not have to retire as soon as an older man after he had accepted the position. Of course there are other factors involved in the tenure of the janitor. Some of these factors are seen in the following Table XII.

TABLE XII. FACTORS DETERMINING TENURE OF JANITORS

Quality of service	218
Outside forces	128
Popularity	11
Influence on community	14
No reports.	5
Total	376

In Table XII the total reaches much more than 310, but this apparent discrepancy is due to the fact that a number of principals had checked two or more items. In tabulating the returned questionnaires it was possible to make several definite conclusions as to the number of factors that were involved in keeping the janitors or in releasing them.

The list of outside forces was interesting to study.

The following suggestions, tabulated from the returns, is evidence that a great number of outside forces exist. These are striking examples of selfishness and of politics. Trustees

have been accused of yielding to political influences. This is only one of the outside influences, but it is quite evident that politics play a big part in outside forces named by the principals reporting to the questionnaire. The list of outside forces and number of times mentioned follows:

1. Politics	44	16. Poor, needs job	2
2. Outside forces not mentioned	19	17. Politics and religion	2
3. Trustees	7	18. Ability to do work	2
4. Politics and quality of work	7	19. Church	1
5. Friend of trustee	5	20. Precinct committeeman	1
6. Lowest bidder	5	21. Economics	1
7. Quality and influence	4	22. Salary	1
8. Quality, influence and popularity	3	23. Lowest bidder and politics	1
9. Same as No. 8 plus outside forces	3	24. Money and politics	1
10. Trustee and party	2	25. Popularity and quality	1
11. Sympathy	2	26. Money	1
12. Personal relatives	2	27. Quality, influence and politics	1
13. Popularity and recommendation of principal	2	28. Politics, "If a good thing pass around"	1
14. Relation and politics	2	29. Inability to secure anyone else at wage paid	1
15. Influence and popularity	2		
		Total	127

In the above list there are 63 cases where the factor of politics entered into tenure of the janitor. This is 20.38 per cent of the total number of questionnaires returned and tabulated. It affects one-fifth of all school children represented in the returned questionnaires. This one item affects the tenure of the janitor more often than any other one item listed in the group of outside forces. In these same questionnaires wherein politics appears as an outside

force, the remainder of the questions reflect the influence of politics. The janitors in these schools usually receive more than the mean monthly salary for janitors, which is seventy dollars and seventy-eight cents, (\$70.78) shown in Chapter VII of this study.

Out of the total of 376 factors mentioned in Table XII, there are only 57.98 per cent of that number stating that, "quality of service rendered" is the basis of tenure. The per cent is large and it should be, but it is still too small. If it were larger, more children would be benefited. This is one item which should be a basic factor in the tenure of a janitor in the schools of the state. It involves all the good qualities of a janitor. Good service means that the janitor is a good fireman and a good sweeper. He would do his work as well as he is capable of doing it, if this were the basis on which he was hired or retained. Efficiency should be the basis for his salary and with improvement in the quality of his work, his salary should be increased. However this is not the case, as will be shown in a later Chapter. In too many cases, it is a "job to be passed around" as is stated in No. 28 above. Passing the job around does not give the janitor an opportunity to become efficient in his work. The trustee looks at the matter as a job for a man, regardless of whom he may be.

Too often in these outside factors, the morals of the janitor are not greatly considered. The minor factors just

happen to be the child and the care of the building in which the child is housed several hours each school day. The major factor is a "job" for a "man". This being the case the janitor will not have the interest in his work that he should have to encourage good work.

In only two of the 126 cases in the above list, was consideration given to the recommendation of the principal (No. 13). It seems that this factor should be an important item in the tenure of the janitor.

The influence of the janitor in the community and upon the pupils should be another factor upon which the tenure of the janitor should depend. This means that a bad moral influence would retire the janitor and a good moral influence would help to retain him. A janitor may be popular because of his friendly and innate tendencies. These are fine characteristics, but they are not enough to be the only basis for hiring a janitor. Very few, if any, of the outside forces mentioned in the above list would be a sound basis for hiring a janitor if considered alone. A combination of a few of them might be a sound basis for his selection. The one thing that should have the most bearing upon the retention of the janitor is the quality of the service rendered under the conditions present. Of course, if a new janitor is to be hired then quality of service rendered, cannot be taken into consideration. Other items will have to be substituted.

Some of these might be his experience with heating plants, his general appearance and his character. There are times when the janitor is doing all that can be done with a building and a heating plant that are in poor condition. In such cases the quality of his work may seem rather low, though no fault of his own. Under proper conditions the work of such a janitor might be entirely satisfactory.

SUMMARY. About one-eighth of the janitors represented in this study were serving their first year as janitors. One-eighth were serving their second year in the same school. As the years of tenure increase the per cent of janitors serving in the same school increases up to and including four years. The longer the janitor is in the same school the more efficient he should become.

A number of outside forces enter into the tenure and selection of the janitor. The most prominent, among others, is politics.

Janitor (first year) salary	120
Janitor (second year) salary	90
Janitor (third year) salary	40
Janitor (fourth year) salary	20
Janitor (fifth year) salary	10
Total	210

The above table shows that 100 per cent of the janitors are not under any salary, while 20 per cent are.

CHAPTER V

SUPPLIES

Supplies are necessary to good janitorial service. In some cases these are not adequate. In some such cases the children pay the price in inconveniences and handicaps. It has been pointed out that more than one-third of the janitors have been in their present positions more than four years. They should have acquired enough knowledge of the janitorial situation to know approximately what supplies are needed and should be permitted to place the orders for such when buying is necessary. The extent to which school janitors buy the supplies is shown in Table XIII.

TABLE XIII. THE EXTENT TO WHICH THE JANITOR ORDERS JANITORIAL SUPPLIES.

Janitor does not order supplies	128
Janitor "sometimes" orders supplies	92
Janitor does order supplies	48
Janitor "seldom" orders supplies	23
No reports	19
Total	310

The above Table XIII, shows that 128 or 41.29 per cent of the janitors do not order any supplies, while 92 or 29.68

per cent "sometimes" order them, and only 48 or 15.48 per cent are given the privilege of ordering supplies. The janitor should carefully check the materials as they arrive and store them in their proper places and keep the invoices or packing slips. When the school year has been completed he can again check his supplies and know approximately the quantity and quality needed for the next year. By so doing, he should know more about the amount and kind that he would prefer than either the principal or the trustee; yet, in the majority of cases, the janitor is not given the privilege to order the supplies. Of the total number questionnaires, 23 or 7.42 per cent of the janitors "seldom" order anything. A total of the per cents in which the janitor has anything at all to do with the ordering amounts to slightly more than 50 per cent. In the remaining 50 per cent either he has nothing to do with ordering supplies or the school did not report on the question.

Since, in the majority of cases, the janitor is not given the right to order the supplies, who does order them? The answers to this question are found in Table XIV.

TABLE XIV. ORDERING OF JANITORIAL SUPPLIES.

<u>By whom</u>	<u>Frequency</u>
Trustees	116
Principal and trustee	80
Principal	68
Principal, trustee and janitor.	2
President of school board	2
No reports	48
<u>Total</u>	<u>310</u>

Table XIV shows that 116 trustees or 37.42 per cent of the total number of schools returning the questionnaires ordered the supplies. Eighty schools, or 25.81 per cent of the total, reported that the buying was done by the principal and trustee. In 68 or 21.94 per cent of the schools the principal is the buyer and 2 or .64 per cent reported principal, trustee, and janitor. The same number reported that the president of the school board does the buying, while 42 or 13.55 per cent did not report on the question. Table XIII shows that 48 janitors ordered supplies. It is quite possible that most of these stating that the janitor ordered supplies in Table XIII did not answer the question for Table XIV, since one question often makes the answer to another question unnecessary.

It seems that it would be difficult for the trustee to buy supplies economically with out first consulting the janitor. Likewise, it would be difficult for the principals to buy economically with out the aid of the janitor. Be that as it may, it has been shown that the trustee and the principal buy more supplies than the janitor. Perhaps the trustee buys with a thought of economy. However one principal made the statement that if the trustee would give him the money that he spent on the school in one year, that he, the principal could buy much more effectively. Too often the trustee is not sufficiently acquainted with the school and school needs; thus a salesman can sell him more than is needed and often

sells supplies to him that are not needed.

A better plan it would seem, would be for the trustee to consult both the janitor and the principal before buying. This exists in only two cases, in the three hundred and ten reports.

In 80 cases the trustee and the principal work together in ordering supplies. This is much better than the trustee taking all the responsibility upon himself. In two cases the president of the school board is reported as ordering the supplies. Usually in larger schools there is a definite plan of ordering supplies for the janitor. Requisitions are made out by the janitor who presents them to the purchasing agent.

Much money is spent each year for janitorial supplies. Care should be used in their purchase. In large school systems a purchasing agent is appointed and a considerable saving is effected through buying in large quantities. This might be done in smaller schools if larger units than the township were used. It is possible that a county purchasing agent could save more than his salary each year, by buying larger quantities and distributing them over the county as they are needed.

The supplies needed by a janitor are the following: Cleaning compounds, soaps, towels, toilet paper, mops, brushes of different sizes for halls, rooms, and gymnasiums, floor oil, sweeping compounds, dusters, pails, dustpans,

electric light bulbs, thermometers, waste paper baskets, nails and screws, paints and oils, tools, ink, and all the materials needed in the basement for firing furnaces, cleaning erasers, etc. Supplies should be largely in the hands

Most schools are furnished an adequate quantity of supplies. This fact is evidenced in Table XV.

TABLE XV. THE EXTENT TO WHICH ADEQUATE SUPPLIES ARE FURNISHED.

Adequate supplies are furnished	270
Adequate supplies are not furnished	22
Almost an adequate supply	3
Supplies are furnished according to funds.	2
No reports	13
Total	310

In 86.80 per cent of the schools represented in the Table XV an adequate amount of supplies are furnished. In approximately 9 per cent of the schools, inadequate amounts are furnished. Even this per cent affects a large number of school children. There are 2 cases wherein supplies were furnished according to funds. If appropriations are made and the funds are properly handled, it seems there should be no deficit in the janitorial supplies required by the schools.

Since most schools are furnished adequate supplies it seems there would be no doubt as to the janitors using them.

According to the reports in the questionnaires only eleven cases were reported in which the janitor did not use the supplies furnished.

Janitorial supplies should be largely in the hands of the janitor, under supervision, to be used when the occasion arises. The principal should, however, see that the supplies are not improperly used or wasted.

SUMMARY. In most cases an adequate amount of janitorial supplies is furnished by the school and used by the janitor.

The trustees and principals do most of the purchasing of these supplies. Few janitors are given the privilege of ordering their own supplies.

The trustee or principal, before buying supplies, should consult the janitor in regard to materials needed.

Source of supplies	Frequency
Trust. Secs.	102
Janitor	118
Prin.	14
Trust. Secs.	1
By private	41
Total	276

CHAPTER VI

ATTITUDES OF JANITORS

In grading children in their school work, the teacher often takes into consideration their attitudes towards their work. Similarly the attitude of the janitor towards his work should be considered in retaining or dismissing him. Does he try to get along with the pupils to the best of his ability? Does he help them so far as he is able to do so? The attitude of the janitor towards the pupils is shown by the amount of sympathy shown them. "Sympathy" in this study is intended to mean, the attitude toward or cooperation, given the pupils, teachers and principal by the janitor.

TABLE XVI. THE EXTENT TO WHICH THE JANITOR IS IN SYMPATHY WITH THE PUPIL.

Degree of sympathy	Frequency
Very Much	163
Somewhat	116
None	18
Too much	1
No reports	12
Total	310

Table XVI shows that 163 or 52.58 per cent of the janitors are "very much" in sympathy with the pupils. In most cases when the janitor was "very much" in sympathy with the pupils, it was found in the questionnaire that he usually had one or more children in the school.

Of the total of 310 returned questionnaires, 116 or 37.42 per cent of the janitors were "somewhat" in sympathy with the pupils. This indicates a lesser degree of sympathy. Perhaps each janitor should have some sympathy for the pupils. He should have the interests of the child at heart, and help him in any way possible, within his capacity. Perhaps the best way that a janitor can serve the child is to set the right kind of moral influence before him. The janitor should not, however, be narrow minded and have only the child in mind; the teachers must be considered. Table XVI shows that one janitor had "too much" sympathy for the pupils. There is not a definite degree or line that may be set up to determine the amount of sympathy that a janitor should have towards pupils. Common sense is the usual means of determining this item.

It should be noticed that 18, or 5.81 per cent of the 310 returns gave "no" in response to the question. The number not stating what amount of sympathy, 12, or 3.78 per cent. The total of both these last two mentioned items is only 9.67 per cent. This shows that about 90 per cent of

the janitors are in sympathy with the pupils in a more or less degree.

E. P. Cubberly¹ says:

"The principal, by interested cooperation with the special supervisor, can usually secure modifications of the work to fit the needs of the special school".

The above quotation is the opinion of an educator who is recognized as an authority. It is merely an opinion of cooperation and what cooperation means to the principal. This quotation, of course deals with the principal and the principal's special supervisor. Cooperation should exist between teachers and janitor as well as between the principal and the janitor. Without cooperation, harmony cannot exist. How well the janitor cooperates with teachers and principals is shown in Table XVII.

TABLE XVII. COOPERATION OF JANITOR WITH TEACHERS AND PRINCIPAL.

Degree of cooperation	Frequency
Very much	281
Somewhat	79
None	3
Very poor	1
No reports	6
Total	310

¹ Cubberly, E. P., The Principal and his School. New York. Houghton Mifflin Co. 1923. p.423.

From the above Table, No.XVII, it seems that most janitors do cooperate with the principals and teachers. Of the 310 reports tabulated 231 or 71.29 per cent of them stated the janitor cooperated with teachers and principal. Perhaps this is due to the fact that they are responsible to the principal in charge as noted previously in Table VI. "Somewhat" was reported by 79 or 25.46 per cent of the principals reporting on the question. The sum of the two per cents mentioned above is 96.77 per cent, indicating a high degree of cooperation.

In checking the returns, it was noticeable that most of the cooperation came from those janitors who had children in the school. At least a larger per cent of the reports stating poor or no cooperation, came from schools where the janitor employed had no connection with the school other than being there and performing his duties. It was also noted that janitors who gave the least degree of cooperation and sympathy with teachers and pupils, were usually the ones who had some political influence or received their appointments through channels other than the demand for qualifications, which should have been the paramount basis for their employment.

Cooperation is an item that is used in grading teachers for success grades. It would seem just as important that this item be used in grading janitors.

One report stated that the janitor was the cause of dismissing two good teachers in that school system. The janitor in that school was an intimate friend of the trustee. The trustee went to the janitor for information. Of course, this janitor did not cooperate with the teachers. As long as any trustee allows politice and friendship to interfere with the quality of the teachers whom he employs the pupils may suffer from the changes.

The attitude of the janitor towards the teachers is quite important. Since the janitors are responsible to the principal in charge, in most cases, it seems that they should take their orders only from him. According to the reports of the principals, who answered the questionnaire, most janitors work in harmony with the principal and teachers. Table XVIII will verify this statement.

TABLE XVIII. THE EXTENT TO WHICH JANITORS ARE IN SYMPATHY WITH TEACHERS.

Degree of sympathy	Frequency
Very much	178
Somewhat	123
None	5
No reports	4
Total	310

Janitors may cooperate with teachers and principals

by doing the things which they ask him to do. Even though he may do their bidding the janitor may not do so willingly. In such cases he may cooperate but he is not in sympathy with them.

Table XVIII indicates that 178 or 57.42 per cent of the janitors are very much in sympathy with the teachers, while 123 or 39.67 per cent reported "somewhat". The total of the two is 97.67 per cent. Scarcely a day goes by but what some teacher finds something that should be done, which would aid both her and the pupils in her care. The teacher should feel free and willing to ask the assistance of the janitor, when such cases arise. Often the teacher will report the situation to the principal, and he in turn will ask the janitor to do the task. When teachers and janitors work in harmony, this part of the work of the principal may be lightened. When such harmony prevails the teachers may go directly to the janitor with their janitorial problems. Of the 9 or 2.91 per cent remaining, 5, or 1.62 per cent reported that the janitor was not in sympathy with the teachers. Four or 1.29 per cent left the question unanswered. In several instances it seems, the janitor was a cooperative agent in spite of the fact that politics played a part in his selection.

Some janitors do the bidding of the teachers because they probably think the teachers are their superiors. Often-

It is believed that some janitors who were reported times janitors want to help to better the conditions under which the teacher must work. When this attitude is taken, harmony prevails between the teachers and the janitor.

Teachers will not impose upon the good will and nature of janitors when such harmony exists. On the contrary, they will do all they can do make his work lighter and more agreeable.

One janitor went to the teachers and asked them if there was anything they would like for him to do. Occasionally the teachers did have something they would like to have the janitor do, but more often they did not. Under such conditions the teachers and the janitor work in perfect harmony, each doing what he could to make the work of the other just a little lighter and more pleasant.

Most janitors are interested in the schools in which they are working. Table XIX shows this fact.

TABLE XIX. THE EXTENT TO WHICH JANITORS ARE INTERESTED IN SCHOOL.

Degree of interest	Frequency
Very much	217
Somewhat	82
None	9
No reports	2
Total	310

It is believed that some janitors who were reported "very much" and "somewhat" in the questionnaire are quite overdrawn. The belief was developed through the checking of the 310 returns that were tabulated. Some janitors that were so reported did not seem to cooperate and they did as little work as it is possible for them to do. One principal remarked:

"Last year we had the best janitor I ever knew: good to the children, and liked by everyone. He always found something to be done that would improve the looks of things. Now we have one who fears he may do something his contract does not call for."

The same principal responds to the above question, by "somewhat". Just where this janitors' interest in the school lies, remains to be found. Surely it is not in the salary, since he receives only thirty-five dollars per month. He arrives at the building at five in the morning and leaves at five in the evening. This same janitor received his "job" by virtue of being the lowest bidder. He also has a political influence with the trustees.

Table XIX, indicates that 217 or 70 per cent of the janitors are "very much" interested in the school. Perhaps the per cent should be higher. The best work is likely to be done by one who is "very much" interested in his work. Eighty-two or 26.54 per cent stated that the janitor is "somewhat" interested in the school. Only 9 or 2.90 per cent are not interested, while 2 or .63 per cent did not answer the question.

One questionnaire, chosen at random, gives an idea of the good type of janitor. He has children in school; he receives eighty-five dollars per month; he cooperates with the principal and teachers in every respect and does not have political influence. At the same time he has served the school in which he is working for fifteen years. Practically all questions which relate to him directly, were checked in the affirmative. Such a janitor is a source of satisfaction to the teachers and pupils of that school.

He works with the teachers who in turn work with the pupils. The pupils of this school will receive the benefits of a good janitor, either directly or indirectly through the work of the teachers in the school. Of the number of janitors who are interested in the schools, a large per cent have children in school.

TABLE XX. NUMBER OF JANITORS HAVING CHILDREN IN SCHOOL.

Janitors having no children in school	171
Janitors having children in school	138
No report	1
Total	310

Table XX indicates that 171 or 55.16 per cent of the janitors did not have children in school while 138 or 44.52 per cent did have children in school. Only 1 or .32 per cent

did not answer the question. Of the janitors reported to have children in school, 115 or 83.33 per cent of them were reported to have "very much" interest in the school. Of those having children in school 23 or 16.67 per cent were reported to have "somewhat" interest in the school, while not one "no" interest was found in this group.

Of those with no children in school, 74 or 43.14 per cent were "somewhat" interested, and 18 or 10.67 per cent were not interested at all.

SUMMARY. Most janitors are in sympathy with the pupils and teachers, and cooperate with the teachers and principal to a great extent. Most of them are "very much" interested in the school, while other janitors are interested to a lesser degree. Janitors having children in school seem to be more interested in the school than those who do not have children in school.

Janitors' salaries vary greatly, the range being from twenty dollars per month to two hundred and forty dollars per month. Of the two hundred eighty eight cases, 27 Table XXI, are involved twenty dollars and under. One hundred dollars per month seems to be the salary of the greatest number.

CHAPTER VII

SALARY

Due to the fact that some of the blanks were left unanswered and also to the fact that some of the schools had more than one janitor, the following notation does not equal 310, the total number of questionnaires returned.

TABLE XXI. AMOUNTS AND FREQUENCIES OF JANITORS' SALARIES PER MONTH.

Amounts	Frequencies
\$240-249	1
230-239	0
220-229	0
210-219	1
200-209	1
190-199	0
180-189	0
170-179	0
160-169	1
150-159	1
140-149	1
130-139	3
120-129	30
110-119	10
100-109	72
90-99	33
80-89	55
70-79	46
60-69	22
50-59	12
40-49	3
30-39	5
20-29	1
Total	398

Janitor's salaries vary greatly, the range being from twenty dollars per month to two hundred and forty dollars per month. Of the two hundred ninety eight cases, of Table XXI, one received twenty dollars per month. One hundred dollars per month occurs 72 times, being the salary of the greatest number. In the interval of 80-90, 37 received eighty dollars per month, 13 received eighty-five dollars per month and 2 received eighty-seven dollars and fifty cents. In the interval of 100-109, 71 cases or the 72, reported one hundred dollars as the salary of the janitor.

The median salary is ninety-one dollars and twenty-one cents, while the mean salary is seventy dollars and seventy-eight cents.

Most of the janitors are hired for the school year; however, not a few are employed for the entire year. In most cases the salary during the summer months is somewhat lower. Some are given a yearly salary which is divided equally into twelve monthly payments. In some cases the building is too big for one janitor to care for efficiently. In such cases, two janitors must be secured or the one janitor must have extra help. Some of the janitors who seem to receive a high salary must hire their own help. In other cases the trustee hires two janitors paying one, usually, more than the other according to the work done. In a few cases one janitor is hired to work during the day and another to work during the night, each having his specific duties to perform.

From an examination of the questionnaires, it seems that the janitor does no more than he is paid to do. In one school the janitor receives twenty dollars per month. He goes to work in the morning and builds the fires in each of the four stoves and sweeps the floor. He leaves the building about the time the teachers arrive at the building. The teachers have charge of the janitorial service during the remainder of the day.

In most of the other cases when the janitor received near the median salary he worked from ten to fifteen hours per day as shown in Table LXVI. The duties performed, vary somewhat according to the salary received. From an examination of the answers to the questionnaires it seems that some of the janitors should be released and new ones secured. They are not doing as much as a janitor is expected to do. However when the salary is considered, the blame is shifted and the janitor cannot be held responsible for his lack of work. Of course he is held responsible for his work by his contract, but the amount received is not enough to pay for the work called for in the contract. There is no fixed method of determining janitor's salaries. This depends upon the size of the building and its condition. Differences in localities also influence the amount paid to the janitor of the schools.

In most communities teachers are paid more the second

year than they are the first year. Usually there is some inducement for them to return to the same school if they are satisfactory. Such is not the case with janitors as is shown in Table XXII.

TABLE XXII. NUMBER OF JANITORS PAID ACCORDING TO TENURE.

Janitors not paid according to tenure.	273
Janitors paid according to tenure	7
No reports	30
Total	310

Table XXII indicates that 273 or 88.06 per cent of the schools did not pay their janitors according to the time they had been in the system and had given good service. Only 7 or 2.26 per cent of the reports stated that the janitors had been paid according to tenure, while 30 or 9.67 percent did not answer the question. It would seem that the janitor should be paid more as the number of years of service increases. It has been noted that a large per cent of the janitors had been employed more than four years in the same school system. Perhaps they have received more remuneration from time to time. During a number of years, the janitor certainly should become more efficient in operating the same heating and ventilating plants. If such is the case, then they are saving the school corporation money by greater ef-

iciency. Why should they not be paid more? The present depression may be a cause for maintaining the same wage scale.

There are two other questions which appeared in the questionnaire that relate to the tenure and means of determining the janitors' salaries. The answers to these question are tabulated in Tables XXIII and XXIV.

TABLE XXIII. NUMBER OF JANITORS PAID ACCORDING TO SKILL AND EFFICIENCY.

Janitors who are not paid according to skill and efficiency	165
Janitors paid according to skill and efficiency	115
No reports	30
Total	310

The Table shows that 165, or 53.33 per cent, reporting that janitors were not paid according to skill and efficiency. Of the 310, reports returned, 115 or 37.10 per cent reporting the janitors were paid according to skill and efficiency, while 30 or 9.67 per cent left the question unanswered.

The last question relating to the tenure and salary of the janitor is stated as follows: "Is the janitor paid the same from year to year?" The answers are shown in Table XXIV.

TABLE XXIV. NUMBER OF JANITORS PAID THE SAME
FROM YEAR TO YEAR.

Salary same from year to year	224
Salary changes from year to year	71
No reports	15

Total	310
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Of the 310 reports returned 224, or 72.26 per cent of them stated that their janitor was paid the same from year to year. Seventy-one or 22.90 per cent reported that they were not paid the same from year to year, while 15 or 5.84 per cent did not reply.

There seems to be a slight discrepancy in the results shown in the three preceding Tables. In Table XXII, 7 are paid according to tenure. In Table XXIII, 115 are paid according to skill and efficiency. A total of the two preceding numbers is 122. In Table XXIV 224 are reported to receive the same salary from year to year. A part of this discrepancy may be accounted for by the number that did not answer the questions.

It seems that more janitors should be paid according to skill and efficiency than the Table indicates, and fewer paid the same from year to year. Perhaps this would raise the standard of efficiency of janitorial service and make a better basis for determining the salaries of the janitors.

It is true that some janitors are receiving all the money that they are earning, and yet they are getting very small incomes while others are being underpaid for their services. Those who are being underpaid should get more compensation, and those who are receiving more than they are earning should be dismissed.

In not a few schools the salary of the janitor is higher than that of the lowest paid teacher in the building. So far as hours are concerned, perhaps this is as it should be but in comparison with training and money paid out for such training, it is not as it should be. The salary of the lowest paid teacher was obtained for comparison of salaries of such teachers and the salaries of the janitor.

TABLE XXV. SALARIES OF LOWEST PAID TEACHERS OF THE BUILDING.

Salaries	Frequencies
\$160-164.99	2
155-159.99	1
150-154.99	7
145-149.99	2
140-144.99	5
135-139.99	9
130-134.99	21
125-129.99	40
120-124.99	35
115-119.99	25
110-114.99	43
105-109.99	26
100-104.99	77
Total	293

It is found that the greatest number of frequencies fall on the minimum lawful salary of teachers. Janitors' salaries are not based on law except in a few instances in state aid schools where the lowest bidder is supposed to be hired for that work.

From the preceeding Table XXV it may be noted that there are only 293 cases due to the fact that 17 of the 310 reports did not state the salary of the lowest paid teacher in the building. The median salary of the lowest paid teacher in the schools reporting the same is \$115.20 as compared to \$91.21, the median of the janitors' salary. The mean of the wages of the lowest paid teachers is \$118.00 as compared to \$70.78 for the janitors' salary.

While a number of janitors do receive a larger salary than the lowest paid teacher in the building where the janitor is employed, it is quite false to state that the janitors as a whole, do receive more money per month than the lowest paid teacher throughout the state. By comparing the two Tables XXI and XXV, relating to the salaries of the lowest paid teachers, and the salaries of the janitors, one has only to glance at the mean salary of each to see that the salaries of janitors are very much lower than the teachers' salaries. The lowest paid teachers receive \$100.00 per month as compared with \$20.00 for the lowest paid janitor. Twenty dollars seems extremely low, but since that

janitor works only part time, a short time each morning, he is free to do other work during the remainder of the day. Even then he is handicapped in his regular work inasmuch as he is required to spend a certain amount of time at the school building. Otherwise he might be able to work full time elsewhere.

Just how much money each janitor should receive is not known, but one authority has this to say,

"In preparing a schedule for janitors there are the factors of age of the building, the relative difficulty of cleaning it, the number of windows, and the area of its sidewalks, lawns, and playground to be considered. The first step is to make a field survey of the school plant and classify the buildings on the basis of age, difficulty in cleaning, and the presence of mechanical devices and implements. The proper weighting of these factors should be done by the chief operating engineer of custodian, who is familiar with every type and condition found in the school plant. After the buildings have been classified on the five-point scale, with a special rating for junior high, senior high, and college buildings the second step is to weight the factors involved in the actual job of cleaning.

Janitorial work may be divided into inside and outside cleaning. Inside cleaning includes the daily sweeping and dusting of rooms and corridors, the periodic scrubbing of lavatories, clinics, etc., and monthly cleaning of windows. All of these factors may be properly weighted in developing a wage for inside cleaning. Their proportionate values may be expressed in the schedule on the basis of so many cents per month per cleaning unit of, let us say 100 square feet. Outside cleaning includes daily sweeping, of periodic shoveling in winter, of the sidewalk area, and keeping the play-

ground free from paper, refuse, etc. From a proper consideration of these factors of outside work a weighted base can be developed and a unit rate supplied. The last step is to determine the actual rate to be applied in any community.¹

As will be shown in Chapter IX, the janitors of the smaller schools in Indiana devote very little of their time to work on the grounds about the building. Since this is the case, perhaps we should consider only the inside cleaning as expressed by Mr. Moehlman, in the above quotation.

Purdue University has offered a short course on school building and ground management intended to be helpful to custodians and caretakers.

"The purpose of this short course is to offer to men responsible for the upkeep of the Public School Building and Grounds an opportunity to discuss the common problems which they will encounter in their daily work.

Discussions of handling the heating plant and ventilating systems, care of buildings and grounds, first aid and fire protection as well as problems of the custodians' responsibilities will result in a higher efficiency in the school plant, better sanitary condition, increased safety to the pupils, and direct saving to the school corporation."²

¹ Moehlman, A. B. Public School Finance. Chicago. Rand McNally & Co. 1927. pp. 167-168

² Knapp, W. A. Correspondence, Professor in Charge of Engineering Extension. Purdue University. Lafayette.

SUMMARY. Some janitors receive as low as \$20.00 per month while others receive as much as \$240.00 per month. The median salary of janitors is \$91.21 and the mean is \$70.78 per month. Most janitors are hired for the school term only. They do about as much work as they are paid to do. A higher salary usually means a better janitor. If he is paid little, he does little.

Only 7 janitors are paid according to tenure. Thirty-seven and ten hundredths per cent of the janitors are paid according to their skill and efficiency. Most of them, however, are paid the same from year to year.

Few janitors receive as much money as the lowest paid teachers.

No examination	22	507
Examination given	8	8
"No, but must be in good health"	8	1
No reports	2	1
Total	40	517

According to the reports it is quite evident that examinations pertaining to the janitors are very few. The above table shows that only 2 out of 40, or 5 per cent, gave reports on examinations and only 8 out of 40, or 20 per cent, gave physical examinations. Three hundred four or 80.2 per cent did not give mental examinations and 38.2 per cent did not give a physical examination.

CHAPTER VIII

APPOINTMENT OF JANITORS

There seem to be no qualifications required of the janitors so far as mental and physical examinations are concerned. Table XXVI illustrates this fact.

TABLE XXVI. JANITORS GIVEN PHYSICAL AND MENTAL EXAMINATIONS BEFORE APPOINTMENT.

	Mental exam.	Physical exam.
No examinations	304	297
Examinations given	3	5
"No, but must be in good health"	0	1
No reports	3	7
Total	310	310

According to the reports it is quite evident that examinations pertaining to the janitor are very few. The above Table No. XXVI shows that only 3 or .97 per cent were given mental examinations and only 5 or 1.67 per cent were given physical examinations. Three hundred four or 98.06 per cent did not give mental examinations and 95.81 per cent did not give a physical examination.

One principal writes:

"Our janitor is extraordinarily satisfactory except for periods of sickness which occur perhaps twice a year. During this period his statements are unreliable."

In the questionnaire, in which this quotation occurred, the principal reported that the janitor is an intimate friend of the trustees.

The above Table No. XXVI seems to indicate that an improvement could be made in the use of examinations for the appointment of janitors. The few schools using examination in Indiana might be compared to the few schools using examinations found by Mr. Garber in his survey. In this connection Mr. Garber says:¹

"Returns show that only 73, or a little more than 7 per cent of the 1,067 cities reporting, require applicants for the position to pass a physical examination. This would seem to indicate that improvement is needed along this line, inasmuch as good health and physical endurance are essential to successful and satisfactory janitor service."

There should be some means by which to choose a janitor. There are many conceptions of the factors necessary for an individual to be a good janitor, many of which would be similar to those mentioned by Mr. Cubberly, when he says,²

¹ Garber, J. A., The School Janitor. Bull. 24 1922. U.S. Bureau of Education. p.7

² Cubberly, E. P., The Principal and his School. New York. Houghton Mifflin Co. 1923. p.210

"If one could choose his janitor he would set up standards such qualities as good moral character, cleanly personal habits and speech, reasonably good English, an interest in and a right attitude toward children, and a willingness to be useful and to learn. The last is more important than initial skill. A young man is usually better than an old one, and a married man than a single one. The kind of work he has engaged in before is often indicative of the type of janitor he will make."

Mr. Cubberly mentioned that a married man was preferred to a single man and a young man to an older man. It has been shown in Chapter VI that the married man who had children in school had a somewhat better attitude than the man who had no children in school. The janitor, whose children have graduated will, in all probability, retain his interest in the school.

Through observation, it seems, that the janitor who is clean and tidy personally, usually has the cleanest and most orderly arranged school building, the neatest arrangement of supplies and the boiler room free from dust and dirt. The janitors' appearance also seems to reflect personal attitudes and habits.

Our schools are not free from the evils of politics. Perhaps the janitor is more affected by politics than other school officials within the school building. Trustees acquire their position through elections at the polls, incidentally through politics, either by virtue of their party affiliations, or by the less virtuous method of corrupt

practices, or both.

TABLE XXVII. EXTENT TO WHICH JANITOR IS AFFECTED BY POLITICAL INFLUENCE.

Janitor is not affected by politics	203
Janitor is affected by politics	92
"Uncertain"	1
No reports	14
Total	310

Politics is a potential factor in the employment of janitors as may be noted from the above Table XXVII. Two hundred three, or 65.45 per cent of the schools reporting indicate that the janitor did not have a political influence. Ninety-two or 29.68 per cent of 11 schools reporting indicated the janitors did have a political influence. One or .32 per cent was uncertain while 14, or 4.51 per cent did not answer the question.

Judging from Table XXVII, above, it is certain that far too much political influence is used in the selection of janitors in our schools. Rather than qualifications that should be used as a basis for hiring the janitor, too many trustees use the potent power of politics.

We have already seen that the number of changes in trustee-ship was quite large. This will have a bearing on the change of janitors during the next school year. One principal writes:

"We have had three trustees in two years. We happened to get an excellent janitor, but with a change in politics I do not expect him to return."

Another principal stated that the janitor of his school is the precinct committeeman, who, of course, would have more or less influence politically with the trustees. Another writes in response to the question, "Does janitor have a political pull?", "No, loses his job". There were many other such comments. Most of them indicated that the janitor had a political influence with the trustee. Quite a number of principals indicated that since the trustees have changed, there will also be a change in janitors the coming year. So great was the influence felt in some communities that the janitors lost their jobs as soon as the new trustee came into office.

The janitor with a political influence has an advantage over those who do not have such influence. Judging from the reports and correlation of answers to other questions in the questionnaire, it seems that the janitors who do have a political influence are blessed with a higher salary than those who do not have. This is not the case in every response but enough so, that it might be called general. This group gets as much as the median salary and in most cases more, occasionally less, however. If the median of this group were calculated it would be somewhat higher than the present median of the entire group of janitors.

It is worthy of note that those principals reporting that the janitor does have a political influence, that in most cases the answer to the questions, (1) "Is janitor in sympathy with pupils ? (2) Is janitor in sympathy with teachers ? and (3) Is janitor interested in the school ?" were not in the superlative degree but rather, "somewhat" or "no". Those who do not have a political influence or who are not related to the trustee, usually answered the above questions with the words, "very much".

Since politics affects approximately one-third of the janitors, it is reasonable to assume that one-third of the pupils will also be affected.

Oftentimes the fact that the trustee is related to the janitor, serves as a basis for his appointment. This relationship is shown in Table XXVIII.

TABLE XXVIII. KINSHIP OF JANITOR TO TRUSTEE.

No kinship existing	284
Kinship existing	19
No reports	7
Total	310

Table XXVIII does not give any cause for alarm since 284, or 91.61 per cent of the janitors are not related to the trustee. Only 19 or 6.13 per cent of them are related to him, and 7 or 2.26 per cent did not report on the question. Of

those reporting "yes" the entire group was in the schools controlled by the trustee alone. This fact indicates that school boards are less affected by kinship than is the trustee.

Table XXIX indicates the extent to which trustees appoint an intimate friend as the janitor of the school.

TABLE XXIX. INTIMATE FRIENDSHIP EXISTING BETWEEN TRUSTEE AND JANITOR.

No intimate friendship existing	179
Intimate friendship existing	108
Uncertain	1
No reports	22
Total	310

It is interesting to note that 179 or 57.74 per cent of the janitors are not, while 108, or 34.84 per cent are intimate friends of the trustee. Thirty-two hundredths per cent were uncertain while 22, or 7.10 per cent did not answer the question.

TABLE XXX. EXTENT TO WHICH JANITOR IS APPOINTED UPON RECOMMENDATION OF THE PRINCIPAL.

Janitors appointed without recommendation of prin.	207
Janitors appointed upon recommendation of prin.	84
Janitors appointed "partly" upon recommendation of prin.	5
Uncertain	1
No reports	13
Total	310

Of the total number of returned questionnaires, 207, or 66.77 per cent of the janitors were not appointed upon the recommendation of the superintendent or principal in charge of the school. Eighty-four or 27.10 per cent were so appointed, 5, or 1.16 per cent were appointed partly upon the principal's recommendation and 1, or .33 per cent was uncertain, while 13, or 4.19 per cent did not answer the question.

It seems that the principals reporting "partly" do have some part in the appointment of the janitor. This number, 5, may be added to 84, the number reporting "yes" to make a total of 89, or 28.71 per cent of the total number of questionnaires. Since a large number of janitors enjoy a long tenure it is quite probable that they were in their present position when the present principal came to that school. Such would be a factor in lowering the per cent of principals recommending janitors to the trustee or to the school board, as the case may be.

It has been stated that principals are to supervise the janitors, and to inform them of their duties. This being the case then the principal should have some voice in the recommendation of the janitor. Mr. Cubberly states,¹

"Janitors, especially men janitors, certainly are not born, but must be made. This

¹ Cubberly, E. P., The Principal and his School. New York. Houghton Mifflin Co. 1923. p.211

task develops on the principal, and it is for him to get satisfactory service from unskilled and often unintelligent labor, and to develop some pride in good work in a man of no perspective. The janitor usually does not work by rule of thumb, and often sees no reason for many of the things he is required to do. Particularly does he usually fail to appreciate the sanitary requirements as sheer nonsense. Fresh air and sunlight he often seems afraid of, and dust usually has no terrors for him."

When a change occurs in the janitorship, then certainly it falls upon the principal to supervise and train the new janitor. With the change of principals, it sometimes makes quite a change in the janitors' duties. The new principal may have different ideas concerning the exercise of the janitors duties. In such cases the new principal must train the janitor in order to enable him to work efficiently in the new set-up.

Some janitors receive their appointment because they are the low bidders for the job. Fortunately only a few school janitors are appointed by virtue of their "low bid". Table XXXI indicates the extent to which the "low bid" is carried out in the appointment of janitors.

TABLE XXXI. EXTENT TO WHICH LOWEST BIDDER IS GIVEN JANITORSHIP.

Lowest bidder not employed	270
Lowest bidder employed	15
"Job not sold"	1
"To certain extent"	1
No reports	22
Total	310

It seems that the rule of the "lowest bidder" is not strictly enforced, since only 15, or 4.84 per cent have indicated that they do choose their janitor in this manner.

One principal remarks:

"We have an unusually good janitor and janitor situation at our place due to the fact that in 1926-1927 after having turned down the bid of a competent man in favor of a cheaper one and an accident due to carelessness and incompetence occurred to the heating plant which cost the township almost \$1000.00. Since that time the trustee has been careful to employ a competent man."

This comment is equivalent to saying that the lowest bidder is not always the cheapest man to hire. The trustee must judge whether or not the lowest bidder is competent. He may reject the bid if it is his opinion that the lowest bidder is not suitable for the position.

Following the words, "Other means of determining who shall be janitor", in the questionnaire, is a blank, on which the principals could add information not specifically asked for. Thirty-eight principals made use of this opportunity and contributed the following remarks:

"Recommendation and action upon application; only applicant; lowest and best qualified; school board and superintendent make selection of janitor on basis of fitness; superintendent's recommendation is vital factor in his selection as no one is kept who does not work to suit him; trustee elects; school board elects; efficient work- care-

ful to select a good, able man; we have selected a man who was a carpenter, electrician and plasterer; man or woman who is intelligent, healthy, and able bodied, also willing to work and cooperate; capability; qualifications in general, past experiences and character; political preference only; quality and efficiency prestige in community; needs employment; politics and efficiency; politics and lowest bidder; politics; trustee selects janitor on basis of general qualifications as is known by him; was especially good at caring for grounds; this was needed; has developed average ability to care for the building and equipment; conference; political promises; party appointment at first of his term, but made good; fitness for the work is the only means; recommendation of the principal; incoming trustee will hire for friendship and political pull; by conference with principal; qualified to fire furnaces; trustee; dependable man; ability; due to tenure mostly; best man for the money in the opinion of the trustee; past experience; mechanical ability; political influence through friends; known character of janitor; the best man available to be hired".

This list is quite extensive, yet hardly any one of them would be sufficient to secure a good janitor. A combination of a few might be taken to form a basis for hiring and setting up some kind of a standard for hiring all janitors of our schools. It is evident that no fixed means

or standard is used in securing the janitors for the school system.

SUMMARY. Practically no examinations, either mental or physical are given prospective janitors.

Politics plays an important part in the selection of janitors.

Kinship does not bias the appointment of the janitor, to a great extent, while intimate friendship does act as a determining factor in the appointment of janitors.

The effects of the "lowest bidder" rule is very slight.

There seems to be no standard upon which to hire janitors for our schools.

Buildings kept warm at all times	300
Buildings which are not kept warm at all times	200
Food, consisting of sandwiches of the feeding place	100
"Cleaning" around the buildings	100
"Supervision"	100
"Traffic"	100
Total	1000

According to the Table VIII shown, most janitors do keep the buildings warm at all times. Others would, but cannot due to the condition of the heating system. Perhaps there are some of those reporting "yes" who belong to the class and are not so strict. The number of buildings which are kept warm at all times is 300.

CHAPTER IX

HEALTH CONDITIONS

One of the important factors about a school building is that of health conditions. It is very necessary that the building be kept at an even temperature and warm at all times while the children are there. Table XXXII shows the extent to which janitors keep the buildings warm at all times.

TABLE XXXII. EXTENT TO WHICH JANITORS KEEP BUILDINGS WARM AT ALL TIMES.

Buildings kept warm at all times	240
Buildings which are not kept warm at all times	59
"Yes, considering limitations of the heating plant"	5
"Excepting unusual circumstances"	2
"Impossible"	2
"Partly"	2
Total	310

According to the Table XXXII above, most janitors do keep the buildings warm at all times. Others would, but cannot due to the conditions of the heating system. Perhaps there are some of those reporting "yes" who belong to this class but are not so stated. Two hundred forty or 77.42 per

cent of the janitors do keep the building warm at all times. Fifty-nine or 19.03 per cent are reported not to keep the building warm at all times. Five or 1.61 per cent stated, "yes, excepting limitations of the heating plant", which means that the building is not kept warm at all times when it is needed. Two or .65 per cent reported "impossible", .65 per cent reported "partly" and a like number and per cent reported, "yes, excepting unusual circumstances". These last five items merely mean that the buildings in which these janitors worked are not kept warm at all times; and these times are probably the coldest part of the winter, when it is very essential that the rooms be kept warm and at an even temperature. The sum of the last five items mentioned amounts to 22.58 per cent of the total 310 questionnaires. It has been found that the average attendance of the schools in this study is 276.42 pupils per school. A total of 70 schools would affect some 19,342 children. Thus it is reasonable to assume that the number is far too great.

In some instances the janitor might be perfectly willing to do the job well, but simply does not know how. In cases of this kind the principal might offer some suggestions; however the average principal knows very little about the heating plant. Perhaps the janitor could profit much by having some specific training in that particular line of work.

In this connection the program of Purdue University

might well be given. In 1931 Purdue gave a four day "Short Course on School Building and Ground Management for Custodians and Caretakers." The subjects of discussion and their leaders were as follows: The Custodian's Responsibility of the Care of the Buildings and Grounds, by Mr. H.F. Osler, Superintendent of Buildings and Grounds, Indianapolis, Indiana, Indianapolis Public Schools; A Survey of the Custodian's Job, by Mr. Ammon Swope, Assistant Professor Industrial Education, Purdue University; Handling the Heating Plant, by A. M. Cole, Professor of Steam Engineering, Purdue University; The School Plant and its Parts, by Mr. W. F. Scholer, Architect, Lafayette, Indiana; Planning a Work Program, by Mr. F. C. Hookema, Assistant Professor Industrial Management, Purdue University; The Custodian and his Responsibility to the Community, by Mr. E. C. Elliott, President of Purdue University; Round Table Discussion on 'Care of Typical Class Room'; Working demonstration on 'Care of Class Room Toilets, Wash Rooms and Showers', by Mr. Edward Pettijohn, Cleaning and Sanitation Engineer, Midland Chemical Laboratories, Dubuque, Iowa; Heating and Ventilating of School Buildings, by Mr. J. D. Hoffman, Head Department of Practical Mechanics, Purdue University; First Aid and Safety, by Mr. Gordon C. Graham, Safety Engineer, Detroit Public Schools, Detroit, Michigan; What Every Custodian Should Know About Electricity, (Talk and demonstration) by Mr. D. L. Curtner, Associate Pro-

fessor, Electrical Engineering, Purdue University; Fire Hazards and Fire Protection, by Mr. C. M. Graham, Chief Inspector, Indiana State Fire Marshall Department, Indianapolis, Indiana; Painting and Decorating, (Talk and demonstration) by Mr. E. J. Witt, Representative Ventral Wall Paper and Supply Co., Chicago, Illinois; Getting Along with Pupils, Teachers and Officials, by Mr. G. C. Brandenburg, Director of Summer Session, Purdue University; and Care of School Grounds, Lawns and Shrubs, (Illustrated lecture and demonstration) by Mr. R. E. Hull, Horticulturist in Landscape Gardening, Agriculture Extension Department, Purdue University. One afternoon was spent in visiting school plants of West Lafayette.

Such short courses should and could be of interest to every janitor in the state of Indiana. There is no registration fee and accommodations are reasonable. In a communication from Mr. W. A. Knapp, Professor in Charge Engineering Extension, he said this:

"Purdue University offered a five-day short course for janitors and custodians, about the middle of June last year. This course was attended by about 175 janitors and custodians, all of whom seemed to be very well pleased with what they had learned here. We are planning a similar course extending over three days, which is likely to be held on the 22nd, 23rd, and 24th. of June."

Mr. Knapp's letter was dated February, 13, 1931. Colorado has had a school of this kind offering short courses

for janitors. In an article in the American School Board Journal,¹ is found an account of the beginning of this school, which was started July, 1925. The following year 47 janitors were enrolled. These courses were given by the Colorado Teachers' College. Arguments for a school of this type may be found in the article to which reference has been made.

In the Purdue University program, which deal with the short courses for janitors, it may be seen that each topic of discussion is in charge of an expert in that particular line of work. All of these men have had special training in their field, and their lectures and demonstrations should be of much help and interest to all janitors. Perhaps the best way in which to interest janitors in this particular type of training is for the school corporation to provide the means for them to receive this training. The janitors, no doubt, would find fault with their own work and find a solution for some of their problems. In these short courses, round table discussions are provided in which janitors may present their own problems.

Teachers in this state are employed only after a certain amount of technical training has been acquired. Experience is also a factor, but no teacher is secured who has

¹ Shaw, J. H., "Colorado Janitors' School" American School Board Journal. Vol. 73. (Aug. 1926) p.66

periodical inspection of the thermometers in the room, if not met the standards set by the State Department of Education. Teachers, do not regret this training, since it is for the benefit of the children who attend schools. If such teacher training is so important, it seems, that most janitors could profit much by some training in their line of work, thus benefiting the school children. If such were the case, then the janitor might appreciate more the place he fills in the life of teachers and pupils. The health of the children must be safeguarded.

Most school buildings are not equipped with thermostats. Reference was made to the approximate age of the building when tabulating replies on this item, and it was found that only the newest buildings were so equipped.

TABLE XXXIII. BUILDINGS EQUIPPED WITH THERMOSTATS.

No thermostats	288
Equipped with thermostats	74
"Partly" equipped with thermostats	6
Thermostats not working	1
No reports	1
Total	370

Table XXXIII shows that 288 or 77.84 per cent of the buildings are not equipped with thermostats, while 74, or 20.00 per cent are so equipped. Since a great number of schools do not have thermostats, then the janitor must make

periodical inspection of the thermometers in the rooms, if he is to maintain a uniform temperature throughout the building. Six or 1.62 per cent of the buildings have thermostats in parts of the buildings.

The following Table XXXIV should be noted in connection with Table XXXIII, to determine the extent to which janitors do make periodical inspections of the thermometers. Of course in 74 cases that would be unnecessary, since that is the number of automatic regulators in the form of thermostats.

TABLE XXXIV. PERIODICAL INSPECTION OF BUILDING IF NOT EQUIPPED WITH THERMOSTATS.

Time of inspection	Frequencies
At intermissions	122
Every 2 hours	31
No periodical inspection	24
Every 1 hour	23
Every 3 hours	8
Every 2 hours and intermissions	7
Intermissions sometimes	4
Teachers report if necessary	3
Seldom	3
Only morning and cold days, teachers take care of room	2
According to time of day and weather	2
Teachers regulate temperature	2
Frequently	2
When notified by office	1
Principal reports	1
Number not reporting	75
Total	310

Table XXXIV is quite in keeping with Table XXXIII

inasmuch as 74 schools do have thermostats and would require no periodical inspection of thermometers. Table XXXIV shows 75 schools not reporting on the question. This would indicate that those answering "yes" to the question, "Is building equipped with thermostat?" is about equal to the number not reporting in Table XXXIV.

Table XXXIV indicates that 122, or 39.35 per cent of the janitors make inspections of the thermometers during intermissions. These, in most schools, would be approximately one and one-half hours apart. Other janitors inspect them during the intermissions and other hours during the day. Twenty-four or 7.74 per cent of the janitors do not make periodical inspections of the thermometers. Other principals reported that they made reports to the janitor and that the teachers regulated the temperature of the rooms. It is doubtful whether the teachers could regulate the heat satisfactorily. The periodical inspection varies from every hour to no inspection at all.

Inspections during the intermissions might be agreeable inasmuch as they would not interrupt class work. At the same time the intermissions cause much moving about, opening of doors and in all probability causes a change in the temperature. Under such conditions the janitor might get the wrong impression of the temperature. Perhaps it would be more satisfactory to take the temperature readings

during the sessions. The following will give an idea of the importance of the knowledge of the heating and ventilating plants:

"A few years ago the qualifications of a school janitor were not so exacting, but the proper operation and care of a modern school plant requires a man with considerable and varied scientific knowledge and training. He should not only know how to build fires and keep them going, but he should know why a fairly even temperature should be maintained, and what the injurious effects upon the human system are when rooms become excessively hot or cold.

He should not only know how to operate a ventilation system, but he should have a clear understanding of the need of fresh, clean air.

A school janitor should be required to have sufficient knowledge and training in mechanics to be able to handle and care for gas engines, electric motors, and switchboards, to control plumbing fixture, to take proper precautions against the spread of fires, understand the use and management of thermostats, and the various modern aids to good sanitation. It is little short of a crime for a city to go to the expense of erecting modern school buildings and equipping them with up-to-date apparatus and fixtures, and then turn them over to janitors who do not have the intelligence and training to understand their purpose or appreciate their values."¹

There is much sound advice in the above quotation. If all janitors knew the purpose of a machine and how the machine achieved that purpose, it seems that much better service

¹ Garber, J. A., The School Janitor. Bulletin No. 24 1922. U. S. Bureau of Education. p.8

could be had and at less expense. Some janitors think their main duty is to shovel coal. They think the more coal they put in the furnace the more heat will result. They do not know the principles of firing a furnace. It is reasonable to assume that scientific knowledge of the principles of machinery and a willingness to work are quite important to any janitor. Too much emphasis cannot be given to cleanliness of

toilets. One of the biggest problems of the school principal is to see that there is proper supervision of the toilet rooms of the school. He must see that there are no vulgar remarks written on the walls, and that no pictures and carvings are there. A great amount of this responsibility may be placed upon the janitor, since he has much to do with the supervision of the boys' toilets. The lady teachers of the building should inspect the girls' toilets several times each day.

TABLE. XXV. THE EXTENT TO WHICH THE JANITORS KEEP TOILETS AND LAVATORIES CLEAN.

Kept clean	233
Not kept clean	47
Fairly clean	11
"Yes and no"	3
Outside toilets	2
"Decidedly no"	1
"Not as good as is possible"	1
Questionable	2
No reports	10
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Total	310

Table XXXV would indicate that most janitors keep the toilets and lavatories clean. Two hundred thirty-three or 75.16 per cent of the janitors is not too high for this item. Of course there might be different degrees of cleanliness which are, perhaps, included in the 233 reports. The toilets should be scrubbed each day and a good disinfectant used as often. Too much emphasis cannot be given to cleanliness of toilets and lavatories.

Most of the toilets are within the buildings. There are schools however that do not have them inside.

TABLE XXXVI. LOCATION OF TOILET ROOMS.

Within the building	256
Outside the building	49
Both outside and inside	1
No reports	4
Total	310

Table XXXVI indicates that 256 or 81.53 per cent of the toilets are within the building. Forty-nine or, 15.65 per cent of the toilets are out of doors and are much harder to care for than those inside. The janitor can do much to keep both types of toilets clean and sanitary.

In most cases the lavatories are within the toilet rooms since there the water is required for both. In this study, however, the toilet is the rest room with all its fixtures which may or may not include the lavatories. The

lavatories being the wash basins. There are a few buildings that have water and lavatories that do not have the indoor toilets. This is due to the fact that water has been installed since the building was constructed. The lavatories should be as carefully cleaned as any other fixture of the building.

TABLE XXXVII. FREQUENCY OF CLEANING LAVATORIES.

Daily	171
Weekly	40
Twice weekly	34
Twice daily	25
Monthly	7
Twice monthly	5
Have none	5
Seldom	3
Outside Toilets	3
"We are using outside toilets now on account of shortage of water"	3
Now and then	2
Weekly or as needed	2
Some weekly and some monthly	2
No reports	8
Total	310

One hundred seventy-one or, 55.16 per cent of the janitors clean the lavatories at least once a day, while 25, or 8.07 per cent clean them twice each day. A total of the two above is 196 or 63.23 per cent, which indicates that this number of janitors clean the lavatories at least once each day, while less than 37 per cent are cleaned at various other intervals. Thirty-four or 10.76 per cent reported "twice

weekly" and 40 or 12.77 per cent clean them "weekly". It is hard to imagine lavatories being cleaned less frequently than once each day. Certainly they are used very little or they must get quite unsanitary. Every school should encourage cleanliness of body and mind. With the lavatories not properly cleaned, then these ideals surely must be neglected. Lavatories should be cleaned after each rest period, for it is during this period that they are used and soiled. Oftentimes we think the children do not notice these conditions, but many children do notice them. Many children go to filthy lavatories to wash and are quite careful not to touch them. They usually wash in the running water when the lavatory is unsanitary. Cleanliness is a preventive for diseases and should be applied in advance of other means of prevention.

Another piece of equipment that should be scrupulously clean is the drinking fountain. Too often it invites the boy or girl to put his mouth on the "spout", especially is this true when the water supply is obtained from drilled wells, and a pressure system is used within the building. The janitor often allows the pressure to become low. This in turn causes the water supply to be low and the water does not spout from the fountain as it should. Children often draw the water from the lines with their mouths. There is nothing so inviting to the spread of contagious diseases as this kind of practice. By keeping a sufficient pressure to force the

water to all parts of the building, the janitor can do much to relieve this situation. Much can be done to prevent the spreading of contagious diseases if the fountains used are such that the spout is inaccessible to the mouth.

The urinals of the boys' toilets should be kept clean at all times. In most schools the pressure systems are used and the urinals are flushed at regular intervals. This system is operated by the intermittent syphon, which is regulated to suit the use of the toilet in which it is used. The janitor is the one person who should care for the flushing system as well as the cleanliness of the toilets in general.

TABLE XXXVIII. DAILY FLUSHING AND DISINFECTING OF URINALS OF BOYS' TOILETS.

Toilets are disinfected and flushed daily	204
Toilets are not disinfected and flushed daily	81
Outside toilets	9
Toilets are flushed daily	2
"Yes and no"	1
"Automatic"	1
No reports	12
Total	310

Of the 204 reporting "yes" it is doubtful if all those schools do disinfect the toilets daily. Often the chemicals placed in toilets are merely deodorants rather than disinfectants. Two hundred four or 65.11 per cent of the schools have flush systems. Eighty-one or 25.86 per cent reported

"no", indicating that they are not flushed and disinfected daily, while some probably have the use of either one or the other during the day. Nine or 2.87 per cent stated that outside toilets are used. In this connection it might be well to quote from "The Rules and Regulations" by the State Board of Health.

"If an outside sanitary closet system is used, the vault receptacle and floor of such closet shall be of cement construction. Dry loamy earth, wood ashes, sifted coal ashes or slacked lime shall be thrown in the vault receptacle at least once each day when school is in session, and the contents of the vault removed at least twice in each school year. All outdoor closets shall be kept effectually screened and protected against flies. The interior walls of such closets shall be sided with corrugated metal sheathing, painted drab color and sanded while the paint is still wet.

In the boys' closet a urinal of metal, cement or other nonabsorbent material with stalls shall be constructed and made to discharge through a proper drain into the soil away from the closet and not nearer than 100 feet to any source of water supply".¹

It is quite doubtful whether the schools using outside toilets comply with the standards fixed.

The Indiana State Board of Health has this to say concerning disinfectants.

¹ Rules and Regulations of the Indiana State Board of Health, Bulletin (no date or number) The Indiana Sanitary Schoolhouse Law as Amended by the Legislature of 1915.

" A clear distinction must be made between a deodorant and a disinfectant. A deodorant merely neutralizes offensive odors, usually by substituting a pleasing odor for one that is less pleasing. A disinfectant destroys or renders harmless, infectious material and disease producing germs. A true disinfectant is in fact a germicide.

Direct sunlight is the best and cheapest disinfectant. Cleanliness and sunlight will destroy and prevent more germs than any artificial disinfectant. In other words, "Sunlight, Supervision and Soap" should be the sanitary slogan of every school.

In special emergencies and following outbreaks of communicable disease, artificial disinfectant is necessary."¹

Sweeping is done at different times during the day in the different schools. Table XXXIX gives the responses to the question, "When does janitor sweep rooms?"

TABLE XXXIX. TIME OF DAY WHEN JANITOR SWEEPS ROOMS.

After school	254
During and after school	36
Before, during and after school	7
Before and after school	7
Before school	3
During school	2
After school and at noon	1
Total	310

Table XXXIX shows that 254 or 81.07 per cent of the schools represented in this study, are swept at the proper time, according to the state board of health. All sweeping

¹ Ibid

should be done after school and not during or before school. A bulletin of the State Board of Health, quoting the Indiana Sanitary Schoolhouse law states:

"Whenever practicable, vacuum cleaning equipment shall be used in school buildings. Dry sweeping and dusting is prohibited, and no sweeping shall be permitted in corridors, schoolrooms, or stairways while school is in session. Floor oil, some form of dust-down or saw-dust treated with oil shall be used on floors before sweeping".¹

In respect to sweeping rooms, then, 25.4 or 81.07 per cent of the janitors comply with the recommendations of the State Board of Health; 18.93 per cent are not complying with their recommendations. It is very likely that a number of janitors do not know the rulings. The principal should see that the janitor gets a copy of the recommendations. While a large per cent are within the law in manner of sweeping rooms, it will be seen that most of them are not complying when sweeping other parts of the building.

It may be true that janitors are usually over-worked, and it may seem to them that they were conserving time by sweeping during school hours. The principal should cooperate in arranging a working program for the janitor. Mr. Cubberly sets up a reasonable standard of service for the janitor after which he says:

¹ Rules and Regulations of the Indiana State Board of Health, Bulletin (no date or number) The Indiana Sanitary Schoolhouse Law as Amended by the Legislature of 1915.

"While the above seems reasonable standards they may be impossible of fulfillment at times due to extra work or unexpected happenings, or they may be impossible of fulfillment at all because the janitorial service provided is inadequate for the size of the building and the character of the work. It is important that the principal come to know just what the janitor has to do each day and week, and how long it takes him to keep the building in good condition. Careful observation of his work for a while will give the principal a basis for judging.

Reasonable allowance must be made for bad weather conditions and extra occasions, and for the furnace work in winter. If the janitor is overworked, the principal should plead his case with the superintendent of the business office."¹

In this quotation Mr. Clobberly expresses the importance of the principal's knowing what the janitor has to do, when he performs the task, and how long it takes him to complete the work. The Principal is not in the background at all in this discussion since his importance is shown in all phases of the janitors' work. The importance of the principal in supervising and inspiring the janitor to do good and better work at all times is paramount. The principal should know the work of the janitor and whether there is enough time to permit the janitor to perform his duties.

Most janitors sweep the rooms after school in the afternoon but a large number of them sweep the corridors and halls during school hours.

¹ Clobberly, E. P., The Principal and his School. New York. Houghton Mifflin Co. 1933. p.129

Table No. XL shows a tabulation of the answers to the questions, "When does the janitor sweep the corridors and halls?"

TABLE XL. TIME OF SWEEPING HALLS AND CORRIDORS.

Afterschool	114
During school	107
During and after school	71
Before and after school	7
Before school	5
Before during and after school	3
Anytime, if at all	1
No reports	2
Total	310

One hundred fourteen or 36.77 per cent of the janitors sweep the halls and corridors after school, 107 or 34.52 per cent sweep them during school, while 71 or 22.90 per cent sweep them during and after school hours. It has been noted that sweeping is not permitted by law within the school building while school is in session, yet more than one-third of the janitors sweep during school hours.

The State Board of Health discriminates between sweeping and brushing. In a list of items for the janitor to do while school is in session is included, "Corridor floors that are oiled may be brushed (not swept)." A later Table, No. XLII, shows that most schools are provided with brushes, rather than brooms, with which to sweep. No discrimination between brushes and brooms is made in this study.

Table XLI shows the frequency of sweeping halls and corridors.

TABLE XLI. FREQUENCY OF SWEEPING HALLS AND CORRIDORS.

Once daily	214
Twice daily	46
One and two times daily	10
Three times daily	8
Less than one time daily	2
Once and more if necessary	2
Four times daily	1
Three times a week	1
Once a day, if at all	1
Once a week	1
No reports	24
<hr/>	
Total	310

Since halls and corridors are connected directly with the outside exits, there is very likely to be more dust and dirt there than in the rooms. Such being the case the halls and corridors will need sweeping more frequently than the rooms. According to Table XLI most halls are swept only once each day. Often schools have as many as five intermissions each day for the lower grades. These grades are careless about carrying in dirt on their shoes and much of this will be deposited in the halls. With from three to five intermissions per day it seems that much dirt would be brought into the building and frequent sweeping or rather brushing will be necessary to maintain a high degree of cleanliness.

Two hundred fourteen or 69.03 per cent of the janitors

sweep the halls and corridors once each day. Forty six or 14.84 per cent of them sweep twice daily. A few sweep the halls and corridors even more often, while only 5 or 1.65 per cent of the janitors sweep them less than once each day. Corridors of the upper floors would need less care than those of the lower floors that lead to the exits.

TABLE XLII. MEANS OF SWEEPING AND NUMBER USING THAT MEANS.

Means of sweeping	Frequency
Brush	240
Brush and broom	39
Broom	22
Brush and vacuum cleaner	5
No reports	4
Total	310

Table XLII indicates that more than three-fourths of the janitors use the brush as a means of sweeping. Such would indicate that they are complying with the wishes of the Indiana State Board of Health. The State Department of Public Instruction recommends the following methods of cleaning floors : They are arranged in order of preference:

- (a) Use of floor preservatives and sweeping with treated mop.
- (b) Use of vacuum cleaner, either with or without oil, and sweeping with floor brushes
- (c) Sweeping with floor brush either with or without oil.

(d) Mopping with soap and water, either with or without oil, and sweeping with floor brushes.

(e) Sweeping with corn brooms, either with or without oil.¹

Sweeping with treated mop was not mentioned in the returned questionnaires. It has been noted that 5 or 1.65 per cent of the janitors used the vacuum cleaner, which the State Board of Education places second in its list. Twenty-two janitors, or slightly more than 7 per cent used the corn broom as a means of sweeping. Thirty-nine or 12.58 per cent used the "brush and broom". The sum of the two above mentioned per cents amounts to about 20 per cent or about one-fifth of all janitors in the smaller schools. The per cent does not seem too great; but the number of children affected by about 20 per cent of the janitors is more than 16,800, according to the average attendance of the schools in this study. Even this 20 per cent using brooms in one way or another should be reduced to a minimum.

Bulletin 100, of the State Department of Public Instruction for Indiana High Schools, states that the halls and corridors should be swept from two to four times each day, according to their use and the condition of the playground. Using this statement as a basis, then about 97 per cent of the janitors in the smaller schools are failing to meet the requirements set up by the State Board of Education.

¹ Indiana State Department of Education. Administrative Handbook for Indiana High Schools. Bulletin 100. p.91

This means that a more thorough study of the janitorial conditions and a better understanding of his duties and of Standards fixed by the State Department should be made by the Principals. The average janitor-engineer will require 6 to 9 minutes to sweep 700 square feet of classroom and cloakroom space. At this rate it would require very little of the janitor's time to sweep the halls and corridors after each intermission.

Dusting is a duty that not a few janitors overlook.

The State Department recommends:

- (1) Frequency of dusting
 - (a) Woodwork should be dusted each Saturday.
 - (b) Classrooms and special rooms should be dusted each morning.
 - (c) Walls and ceiling, pictures and window shades should be dusted at least three times a year.
 - (d) Radiators should be dusted twice a week.
- (2) Time required for dusting.
 - (a) A janitor-engineer should require from 2 to 2½ minutes to dust 40 pieces of classroom furniture if manufactured sanitary duster is used and best method of procedure is followed. If cloth is used the time required will be increased about one minute.
 - (b) A good quality of cheesecloth and cotton flannel cloth give excellent results but require more time for dusting.
 - (c) A rough, stiff cloth or feather duster should never be used.

Table XLIII indicates the amount of dusting done by the janitors of the schools.

TABLE XLIII. EXTENT TO WHICH JANITOR DUSTS SCHOOL FURNITURE EACH TIME HE SWEEPS.

Does not dust school furniture after each sweeping	172
Dusts after each sweeping	125
"Doubtful"	3
"Not always as careful as might be"	2
"Usually"	2
"Not always but generally does"	2
"Never"	2
"Questionable"	2
"Two times a week"	1
Total	310

Table XLIII shows that 172, or 54.91 per cent of the janitors do not dust after each time they sweep, and 125, or 39.91 per cent do dust after each time they sweep. When floors are well oiled there should be very little dust, but even then, there will be an accumulation of some dust, and it should not be allowed to collect on the desks to soil clothes and impair the health of the children. Some janitors are reported, "never" to dust after they sweep, some are "questionable" and still others may or may not. Some janitors dust two or three times each week.

Various materials are used in the smaller schools in Indiana, with which to dust. The materials used are listed in Table XLIV.

TABLE XLIV. MATERIALS USED FOR DUSTING AND NUMBER OF TIMES MENTIONED.

Materials used	Frequency
Oiled cloth	133
Treated cloth	42
Oiled duster	39
Dustless duster	32
Damp cloth	20
String duster	17
Dry cloth	15
Feather duster	11
Wool duster	9
Oiled brush	7
Medicated cloth	5
Damp cloth and oiled cloth	4
Nothing	4
Mop	3
No reports	29
Total	370

Table XLIV indicates that the oiled cloth is used in dusting in more cases than any other material. In 133 schools or 42.90 per cent of the total number of returns used the oiled cloth as a means of dusting. The treated cloth ranks next with 42 or 13.55 per cent of the schools using them. The oiled duster ranks close to the treated cloth with 10.58 per cent using it. In 11 schools, or 2.97 per cent, the old feather duster is used. A dry cloth is used in 15 or 4.84 per cent of the schools represented in this study. Dusting should be done with some material that will retain the dust so that the material may be taken outside and placed in the sunlight to kill the germs.

Several schools mentioned two and sometimes three kinds of dusting materials, thus the total of 370.

The condition of the blackboards often reflect the character of the janitor's work in a room. The blackboards should be cleaned whenever needed and the janitor should be able to tell when such time has arrived. Very often the teacher and pupils in the lower grade rooms care for the blackboards during the week and on Friday afternoon before school is dismissed for the week-end. This may develop a habit of cleanliness on the part of the pupils. As the children advance through the grades they have less time to perform these duties, therefore the janitor should see that the boards are kept clean.

Bulletin 100, previously mentioned, offers these suggestions:

e. Cleaning Blackboards

(1) Frequency of cleaning.

(a) All blackboards should be cleaned thoroughly each week. Those receiving most use should be cleaned two or three times per week according to their need.

(2) Time required.

(a) It should require, on the average, from 4 to 8 minutes to clean 100 square feet when the best methods are used.

(3) The following methods of cleaning may be used with satisfactory results:

(a) Wash the blackboard with a sponge, using plain water, warmed enough to protect the hands. First clean a space around the four sides of the frame of the blackboard, using care that no water drips down the chalk trough and on the walls. Then clean the remainder of the board. Rinse with clear water.

(b) Use a heavy towel, dipped in clear water, (wrung fairly dry for washing and very dry for drying) folded or rolled and used with two hands, placed flat against the blackboard, one above the other. Avoid dripping and splashing.

(c) Use same appliance rolled or folded about a stick for the washing process, taken off, wrung very dry and rolled or folded around the stick for drying. The stick should be about two feet in length and not over two inches in width and thickness.

(d) Use a cotton flannel cloth dipped in kerosene cut with wood alcohol, the cloth being folded and used with one hand. Plain kerosene should not be used since it rots the slate.¹

TABLE XLV. PREPARATIONS USED BY JANITORS TO CLEAN BLACKBOARDS AND NUMBER TIMES MENTIONED.

Materials used	Frequency
Water	249
Other materials (names not mentioned)	17
Kerosene	9
Teachers and pupils clean blackboards	6
Kerosene and Water	5
Soap and water	4
Special blackboard cleaner	3
Does not clean blackboards	3
Other methods fail to clean	2
Water and other materials.	2
Treated cloth	1
Dry cloth and water	1
Blue top cleaner	1
Patent cleaner	1
Dry cloth	1
No reports.	4
Total	310

¹ Indiana State Department of Education. Administrative Handbook for Indiana High Schools. Bulletin 100. p. 94

Two hundred forty-nine or about 80 per cent of the janitors use water with which to clean the blackboards. This is entirely in keeping with the recommendations set forth by the State Board of Education. Seventeen or 5.43 per cent are reported to use "other materials". Nine or 2.87 per cent of the janitors use kerosene to clean the boards, while another 1.59 per cent used it part of the time with water. "Other materials" represent cleaners other than water and kerosene. Some schools use a patented cleaner, but the total users of "other materials" is not large.

Kerosene makes the blackboards very black and cleans them very nicely, but the effects of it on the board are very noticeable when it is used. It seems to make the boards so smooth that the chalk does not always leave a clear mark. Especially is this true if excessive amounts are used. If kerosene is used it should be "cut" with wood alcohol as recommended above.

Erasers should be cleaned as often as necessary as they soon soil the blackboards if not kept clean. The children of the lower grades like to clean the erasers, and if there is no mechanical means of cleaning them, the children may clean them. The children should not clean the erasers near the building. The chalk troughs should be cleaned daily and the dust taken from the rooms. Even "dustless" Chalk is very dusty.

TABLE XLVI. FREQUENCY OF CLEANING BLACKBOARDS.

Weekly	214
Twice weekly	35
Each two weeks	26
Daily	10
When needed	3
Twice monthly-sometimes	1
Daily in grades and weekly in H.S.	1
Very seldom	1
Monthly	1
No reports	18

Total	310
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Blackboards in the rooms that are used much should be cleaned two or three times a week and at times they should be cleaned daily. Two hundred fourteen or 68.30 per cent of the janitors clean the blackboards thoroughly once each week. Thirty-five or 11.18 per cent clean them twice weekly while 10, or 3.19 per cent clean the boards daily. The total of the last two mentioned items is 14.37 per cent. These janitors probably keep the boards clean. In the remainder most of the boards are not cleaned frequently enough. Three principals reported "when needed". In these cases the blackboards are kept clean, depending upon what "when needed" means. The teacher, usually, should be the judge as to when the boards need cleaning since the character of her work will be reflected somewhat by the appearance of the blackboards.

Sweeping compound is used to prevent dust from rising in the rooms or in the corridors. It should not be expensive inasmuch as good sweeping compound can be made by putting oil on a quantity of sawdust. Janitors are divided as to the use of sweeping compound. Table No. XLVI shows the number using it.

TABLE XLVI. USE OF SWEEPING COMPOUND.

Sweeping compound is used	110
Sweeping compound is not used	102
Sweeping compound is "sometimes" used	91
Only on cement floors	3
Only on corridors and varnished floors.	1
Always	1
No reports.	2
Total	310

One hundred ten janitors use sweeping compound. This number represents 35.12 per cent of the 310 questionnaires that were returned, or about one-third of the janitors represented in this study. One hundred two or 32.25 per cent of the janitors do not use the compound, while 91, or 29.05 per cent do use compound part of the time. In most cases when no compound is used the floors of the buildings are oiled. This fact may account for the lack of using the sweeping compound by such a large number of janitors. Even on oiled floors sweeping compound may be used to an advantage. There is always a surplus of dirt which piles up before the broom

or brush, a part of which rises during the process of sweeping. If sweeping compound is used, there is a minimum amount released into the air. It seems that the sweeping compound collects and holds the dirt together much more effectively than is done when sweeping without it. Three janitors are reported to use sweeping compound "only on cement floors", one only on "corridors and varnished floors" and one reported "always". The total of those who do not use sweeping compound at least part of the time is 216. This represents 69.68 per cent of the total.

Most janitors that use it do have an adequate supply of sweeping compound on hand.

TABLE XLVIII. AMOUNT OF SWEEPING COMPOUND KEPT

An adequate amount	177
Not enough	72
None	2
No reports	59
Total	310

More than half or 56.51 per cent of the janitors have an adequate supply of floor compound on hands at all times. Seventy-two or 23.99 per cent do not have an adequate supply at all times. Two or .64 per cent do not keep any at all, while 59 or 18.84 per cent did not report on the question. Of course, in most of these cases of no re-

ports the answer was "yes" due to the fact that most of the janitors do use the compound as indicated in Table No. XLVII.

If janitors were given more of the purchasing power of their supplies, they would probably replenish their supply of sweeping compound before they were completely out of it.

It is possible that a number of janitors do not use sweeping compound because an adequate supply is not in stock. The lack of sweeping compound may be due to economy measures or it may be due to the fact that most floors are oiled. Most of the so called "economy" in our schools may prove to be "false economy" when measured in terms of child welfare. No economy in terms of dollars and cents should be spared to protect the health of the children within the school building.

A few schools have had absentees due to janitorial service. The number of such schools is tabulated in Table No. XLIX.

TABLE XLIX. ABSENTEES DUE TO JANITORIAL SERVICE.

None	283
Cases reported	10
No reports	17
Total	310

While there are only 10 reporting absentees due to

janitorial service, it seems that there should be no absentees due to janitorial service. There may have been causes that were unavoidable. The 10 represents 3.19 per cent of the total.

Some of the reasons for absentees due to janitorial services given by the principals in the questionnaires were astonishing. One principal reports "fresh varnish". Just why the janitor should apply fresh varnish at a time when the attendance would be affected is unknown. It is also unknown why a principal would permit varnish to impair the attendance record of the school.

Another principal reported that absences were caused by "irregular temperature and dust". Often times school-houses are in such condition that it is hard to heat the building properly, especially when there is a wind to combat. Often, too, the building is old and hard to heat. This condition does not exist in the above case for the building in question is but 5 years old. The janitor had been in the system for more than four years, and his tenure depends upon quality of service rendered, popularity, and outside forces. The janitor also has a political influence and receives \$100.00 per month for 12 months of the year. If absentees are caused by "irregular temperature and dust" then how can he be retained because of quality of service?

Another principal expresses his sentiment in a very forceful, if not vulgar terms when he gave as a cause, "a damn fool as a janitor". In this same school plant the rooms are not kept warm at all times, toilets and lavatories are not kept clean, sweeping is done at all times during the day, and dusting is entirely neglected. This janitor receives \$100.00 per month.

Another example is that of a janitor who received \$90.00 per month, and had been employed in the same school more than four years. He had a political influence and was an intimate friend of the trustee. He did not keep the building warm at all times, cleaned the lavatories monthly, and did not keep the toilets clean. He swept the corridors three times each week. This same school reported absences due to janitorial conditions, and stated that his tenure depended, in part, upon popularity.

Another principal reported, "other business" as the cause for absences due to janitorial service. This janitor had been in his present position for two years, and his tenure depended upon outside forces; namely trustee and party affiliations. He received \$90.00 per month, had a political influence and is an intimate friend of the trustee. The lavatories were washed and cleaned twice monthly and the toilets were "fairly" clean. This janitor did not have a working knowledge of the ventilating plant.

Another principal reported that the trustee had accepted the plan of the lowest bidder in an attempt to reduce operating expenses. The lowest bidder happened to be a man who was incompetent. The principal's remarks are stated on page 65 of this study.

The janitor who is the lowest bidder is not always the cheapest in the end. A good janitor means much to the school and is a factor in the school's attendance. It means that if the facts were known that there would be more absentees due to janitorial service. Colds are a common cause of irregular attendance. Various reasons may be given as the cause for such colds, but improperly regulated temperature is considered a cause for colds. Fifty-nine principals reported that the janitors did not keep the buildings warm at all times. (Table XXXII) In such schools colds could be contracted easily. Probably more absentees were caused through poor janitorial conditions than is reported.

Another case was reported where many children were absent due to janitorial conditions. In this case it was due to the laziness of the janitor. He had been in the building two years. He was absolutely impervious to suggestions from the principal. The rooms were cold in moderate weather, the lavatories were dirty, and all other duties neglected in the same manner. This janitor had that "don't care" attitude and he persisted in keeping it.

A number of different ways were reported in treating the floors of the school. Different preparations were used on the floors. The different methods used in treating the floors and the number reporting such method is shown in Table L.

TABLE L. PREPARATIONS USED ON FINISHED FLOORS.

Oil	279
Wax	5
Linoleum	2
Varnish	2
Hardwood	2
Special preparation	1
Cork	1
No reports	18
Total	310

Of all the methods of treating floors, by far the greatest number of schools have them oiled. This is to be expected, since that is a very effective means of preventing dust from rising. About 90 per cent of the schools use oil in treating the floors. Perhaps this is the cause of 102 janitors not using sweeping compound when they sweep. Less than one per cent use varnish, wax and other preparations as a means of treating the floors, and about 5 per cent did not answer the question. Perhaps the principal did not take into consideration the gymnasiums of their schools. It is quite likely that the majority of schools do not use oil on gymnasium floors which in all probability are treated with shellac or varnish.

The recommendations set up by the State Department of Education are as follows:

"(4) The following equipment should be supplied for use in cleaning floors.

(a) Mops--wood handle, 6" clamp and mop head with strands 9" long recommended, for class rooms. Iron handle, 18" clamp and mop with strands 18" long recommended for corridors, gymnasiums, etc.

(b) Brushes--12" to 16" blocks for classrooms and 18" to 36" blocks for corridors gymnasiums, etc.

(c) Central vacuum cleaner or portable vacuum cleaner.

(d) Miscellaneous equipment---Counter brush, radiator brush, nail brush, scrub brush, galvanized dust pan, galvanized iron pail, cleaning cloths, chamole skin, janitor's belt kit containing putty knife, pliers, and screwdriver.

(5) Oiling floors.

(a) If mop or hair floor brush is used in cleaning, the floors of all classrooms and corridors should be oiled three times each year.

(b) The floors should not appear black; there should not be patches of unabsorbed oil immediately after oiling; there should not be patches of oily, gummy dirt next to the walls or desk legs and there should be no odor.

(c) Oil can best be applied with a mop. The oil should be contained in a wringer bucket.

(d) When first treated 700 square feet of surface will require 3 to 4 gallons of oil; after the wood becomes saturated about 3 or 4 quarts per 700 square feet of area will be required." ¹

¹ Indiana State Department of Education. Administrative Handbook for Indiana High Schools. Bulletin 100. pp.91-2

TABLE LI. FREQUENCY OF OILING FLOORS.

Twice each semester	118
Each semester	75
Yearly	46
Monthly	32
When needed	6
Three times a year	5
Waxed twice during semester	3
Semester or as needed	2
Monthly or as needed	2
Monthly for corridors	2
Varies	2
Once every two weeks	2
Waxed each semester	2
Varnished each semester	1
No reports	13
Total	310

"The use of oil on school room floors will overcome the "dust nuisance" to a very great degree. Experiments show that proper applications of oil decreases the bacteria count in the air and dust of the school rooms from 55 to 250 per cent. All school room floors should be oiled from two to four times a year as required."¹

There seems to be no need for alarm in reviewing the preceeding Table LI. One hundred eighteen or 38.07 per cent of the janitors oil floors four times each year. Seventy-five or 24.19 per cent oil the floors once each semester or twice each year. Thirty-two or 10.22 per cent apply oil monthly. The floors in nearly all schools are oiled before the opening of the school year in the fall, and again during Christmas vacation. It is doubtful if

this meets the requirements. Of course, it depends upon the use of the building, but all school buildings are used about the same in proportion to the number of pupils in the school. Ten stated that oil is used as it is needed. Others use it more frequently than twice each year.

Oiling reduces the amount of dust in the air as may be noted from the above quotation. Whether it will reduce it from 55 to 250 per cent or not is questionable.

Of the 5 that reported waxed floors, 3 waxed them twice during the year and the other 2 waxed them once during each semester. Of those that reported varnishing the floors one varnished them each semester and the other did not report as to the frequency.

It is concluded, then, that in about 85 per cent of the schools the floors are properly treated so far as oiling is concerned.

The oil on the floor seems to hold the germ content that may happen to be on the floor. Tests have been made of the sweepings to determine the germ content. A few schools have made such tests. Table LII shows the number that have done so.

TABLE LII. EXTENT TO WHICH TESTS HAVE BEEN MADE FOR GERMS OF THE FLOOR.

No tests have been made	293
Tests have been made	10
No reports	7
Total	310

Only 3.19 per cent have made tests for germs on floors of the school. Of these 10 reports the findings were given as follows: (1) nothing alarming (2) 3, none (3) some germs; (4) corridors show more bacteria than classrooms; (5) clean floors; (6) plenty. The other two did not report their findings.

Plans had been made to make several tests for germs on the floors and have them analyzed by the Biology Department of Purdue University. After corresponding with Mr. E. E. Enders, Head of the Department of Biology of Purdue University, the plans were abandoned. Mr. Enders' letter, dated April 7, 1931, is as follows:

" In answer to your questions relative to tests for germs on floors, we do have the facilities to make analysis of germs of all kinds in our department of Bacteriology, but our staff is so consistently and continuously engaged with the duties of instruction that they are obliged to work over nights, holidays, and very often on Sundays, in order to do their research in periods that are not otherwise occupied in teaching. You have suggested the tests for germs of floors which are treated differently, some oiled, some combination floors, and some varnished and waxed floors. It would require five samples to sweepings to make the analysis. The cost for such analyses would be five dollars per sample, or a total of twenty-five dollars for the tests you have suggested. Such tests, we have every reason to believe, would prove very little, or nothing; at any rate, they would not be worth the cost of analyses, for several reasons. The first reason is that in the dust and sweeping, there might be a great variety of molds and many kinds of bacteria, very few, if any, that might be harmful ones.

Bacteria and molds do not readily grow and propagate on floors. Any treatment of bacteria that would kill them would of necessity require a considerable period of exposure to the medium, which would serve the purpose; therefore, the ordinary oiling of a floor or waxing of it tends not so much to kill the germs as to allay dust. Treated floors may not be as dusty as others, and various methods of moistening serve only to keep the dust from being raised during the process of sweeping or in the act of walking over them.

Culture methods are employed in laboratories to show the growth of bacteria and molds, when dust, after it is stirred up in a room, settles on exposed firm food substance. After an exposure of ten or fifteen minutes, the culture material is covered, set aside for a time sufficient for the molds and bacteria to grow and then the materials are examined and identified. A series of such plates exposed, in different rooms, shows the relative degree of dustiness and the presence of germs and molds. The only way in which one might determine whether the bacteria are harmful would be to run tests upon various animals and, to show whether or not they produce disease. Very few of the bacteria are harmful in any way in proportion to the total amount which may be found, and swept about in the dust. For this reason, we say that it would scarcely pay to have analysis made of the germs, beyond the study of relative amounts of dust in the air. The principal thing to do is to treat a floor so that dust may be reduced to a minimum during the period of sweeping and to observe ordinary care in the general cleanliness of the place.

If the room is particularly dusty, an effort should be made to treat the floor so that the dust may be kept at a minimum. We believe that you would not be justified in making any expenditure for a study such as you propose, but that more would be gained by attempting to reduce the dustiness of the floor than to try to kill the molds and bacteria by treatment with any fluids that do not completely saturate every portion of the floor."

From the content of Mr. Enders' letter it appears that the testing of the different cultures would prove little or nothing and would be an added expense. The thing to do, in any case, then, is to reduce to a minimum, the dust particles in the air. Oiling floors is probably the best means of accomplishing this end. Sweeping compound may be used to an advantage in allaying dust particles.

From Table LIII it is obvious that the principals are about evenly divided in their opinions as to whether or not oiled floors are less conducive to disease than varnished floors. Twenty-one did not express their opinion and 34 did not report on this question.

TABLE LIII. OPINIONS OF PRINCIPALS AS TO WHETHER
OILED FLOORS ARE LESS CONDUCTIVE TO
DISEASE THAN VARNISHED FLOORS.

Opinions	Frequency
No	128
Yes	121
Unknown	21
Would like to know	33
Depends upon cleaning methods	3
No reports	34
Total	310

Some salesmen imply that their floor oil contains a disinfectant that will kill the germs on the floors. Maybe it does, but the majority of floor oils do not contain any

substance that will entirely rid the floor of germs. It is true that the oil will hold the germs and bacteria rather than permit them to fly freely about the room in the form of dust. Varnished floors do not hold the germs and bacteria as well as oiled floors, and for that reason the oiled floors are probably less conducive to disease than the varnished floors. Even oiled floors should be scrubbed occasionally to rid the floor of gummy black spots that invariably accumulate if oil is added each time without proper care before it is applied. Thus the room will take on a cleaner appearance and the pupils will take more pride in the rooms when such spots are removed.

Even though oiled floors hold dust, it is sometimes, necessary to thoroughly disinfect the entire building. Table LIV shows the frequency of disinfecting and the number of schools reporting.

TABLE LIV. FREQUENCY OF THOROUGHLY DISINFECTING BUILDING.

Each semester	82
When occasion arises	76
Each year	42
Weekly	28
Each semester and when occasion arises	26
Monthly	20
Yearly and when occasion arises	18
Weekly or when occasion arises	4
Monthly or oftener	3
Monthly or when occasion arises	2
Daily	1
No regular time	1
Depends	1
Building is kept sanitary at all times	1
No reports	6

Total

310

It seems that there should be definite periods of time for disinfecting school buildings very thoroughly. The Table LIV indicates that about all buildings do have such times, and often are treated with a disinfectant between the periods already mentioned. Practically all schools would disinfect their building oftener if the occasion arose to do so. After a case of any contagious disease is found in the school, a disinfectant should be used very thoroughly throughout the building. Disinfectants will help to prevent epidemics. (See reference on page 83 regarding disinfectants).

A good janitor is as careful with the grounds about the building as he is with the building. The following Tables, numbers LV? LVI and LVII indicate, to some extent, the amount of work the janitors do outside of the building.

TABLE LV. EXTENT TO WHICH JANITORS KEEP SIDE-
WALKS CLEAN.

Are walks kept clean?	Frequency
Yes	246
No	49
No sidewalks	4
Fair	3
Partly	3
Questionable	1
No reports	4
Total	310

Cent of the janitors keep the sidewalks clean. 214 of 22,03
 TABLE LVI. EXTENT TO WHICH JANITORS KEEP
 GROUND CLEAN. 41.61 per cent
 of the beautify buildings and grounds. 10 per cent

Are grounds kept clean?	Frequency
Yes	214
No	78
Part time	5
Fair	4
Pupils have responsibility	3
Yes, with help	2
Boy Scouts	1
Physical training class	1
In care of another man	1
No reports	1
Total	310

TABLE LVII. EXTENT TO WHICH JANITORS BEAUTIFIES
 BUILDINGS AND GROUNDS.

Does Janitor beautify buildings and grounds?	Frequency
No	161
Yes	129
Helps	4
During vacation months	4
To limited extent	4
Physical Training class	2
In care of another man	2
A little	2
With occasional help	1
Parent teachers association	1
Total	310

These three tables indicate that 246, or 79.03 per

cent of the janitors keep the sidewalks clean, 214 or 69.03 per cent keep the grounds clean and 161 or 41.61 per cent of them beautify buildings and grounds. As set out in Bulletin, No.100, issued by the State Department of Public Instruction, the janitor has:

"(b) Care of grounds,

(1) In caring for the grounds janitor-engineers should perform such duties as removing rubbish, watering lawn, trees and shrubbery, cutting grass, trimming trees and shrubs, caring for flowers, sweeping sidewalks, shoveling snow from sidewalks."¹

Thus the janitors' duties are not limited to the inside of the building as some of them would have us believe.

It seems that most patrons do not visit the school. These patrons form their impressions of the school from the remarks of the children and the outward appearance of the building and grounds. If they are to form the best opinions of the school, then the outward appearance of the building and grounds should be well cared for.

Perhaps the atmospherical conditions in the town or country will determine the frequency of washing windows. Where the soil is loose and free to form dust it will settle quite noticeably on the windows. In other districts where soil is more compact the earth will not form dust so freely. A slight rain falling on the dusty windows will cause them to become soiled. The difference between clean and dirty windows is noticeable after dirty windows have been cleaned.

¹ State Department of Public Instruction. Administrative Handbook for Indiana High Schools. Bulletin 100. p96

On the inside of the building, the windows become dim from dust caused from sweeping. Coal dust is often a factor. The steam from the radiators, together with the constant touching by the children tend to soil the windows. The inside of the windows can be cleaned more readily than the outside. They should be washed more frequently. Table LVIII shows the frequency of washing windows in the smaller schools of Indiana.

TABLE LVIII. FREQUENCY OF WASHING WINDOWS.

Each Semester	171
Monthly	73
Yearly	13
Twice each semester	9
Each semester and when needed	6
Weekly	4
When needed	3
Six times a year	3
Twice monthly	2
Each semester, if at all	1
Sometimes	1
Questionable	1
Depends upon weather	1
Never by janitor	1
Pupils wash windows	1
No reports	20
Total	310

Bulletin 100, sets up these standards for washing windows: yearly.

"c. Washing windows.

(1) Frequency of washing windows

(a) Windows should be washed on the inside once a month and on the outside three times a year.

(b) Glass in doors should be washed twice a week. Glass in cases, cupboards and mirrors should be washed weekly. Transoms, glass fixtures and glass pictures should be washed three times a year.

(2) Time required to wash windows.

(a) It should require 4 to 6 minutes to clean 2000 square inches of glass area with window panes of about 200 square inches when the best methods and appliances are used.

(3) Tools and appliances used in cleaning glass.

(a) The best appliances for window cleaning are a cloth or chamois for washing the window and a chamois for drying it.

(b) For washing windows on the inside, a solid window ladder of the 4-leg type, with flat top, is needed for the upper windows.

(c) For washing windows on the outside a good window platform or window straps and hooks should be provided.

(d) Water, either clear, or with the addition of a little kerosene and wood alcohol (proportions 2 parts of alcohol to one part of kerosene) and heating to about 95 degrees, is best cleaning agent!¹

Table LVIII indicates that 171, or 55.16 per cent of the janitors clean the windows only twice each year. In all probability this work is done before school opens in the fall and again during the midseason vacation. This group of janitors would fall short of the recommendations given by the State Board of Education. Only 73 or 23.55 per cent of the janitors wash the windows monthly, or from eight to ten times each year, while only 13, or 4.19 per cent wash windows yearly. Other periods of washing range from "each

¹ State Department of Public Instruction. Administrative Handbook for Indiana High Schools. Bulletin 100. p.93

semester or when needed" to "no wash at all". It is surprising to find one report saying that the pupils wash the windows.

It is evident that most janitors do not wash the windows often enough to satisfy the specifications of the State Board of Education. The very cleanest and best atmosphere should be provided children who are working.

Very frequently the janitor is not provided with the proper equipment for washing windows. Especially is this true for washing the outside of the windows. Weather conditions often prevent the cleaning of the outside of the windows at the close of the first semester. The janitor should be ready to do this part of the work when a warm day presents itself at that time of the year.

SUMMARY. It seems that the school buildings in which a great number of children are housed, could be made somewhat more sanitary. All buildings are not kept at an even temperature at all times. Most buildings are not equipped with thermostats, making it necessary for janitors to make periodical inspections of the thermometers of the different rooms.

Most janitors keep the toilets and lavatories clean, however there are several who do not.

Most sweeping is done after school hours. A great number of janitors sweep the halls and corridors during

school hours. Most of them sweep the halls and corridors only once a day, while a few sweep them oftener. Brushes have a more common use than any other means of sweeping. Less than half the janitors dust a room everytime that it is swept. An oiled cloth is used by most of them for dusting.

Blackboards are generally cleaned with clear water, a few use other materials.

Sweeping compound is used by 110 janitors. Some of them use it on cement floors and not on the oiled floors. Most floors are oiled.

Most buildings are thoroughly disinfected two or more times each year.

Most janitors do not attempt to beautify the building or clean the grounds.

under the same. An attempt was made, however, to find the average number of square feet of floor space in the buildings reported. These are given in Table No. 11.

CHAPTER X

TABLE 11. AVERAGE NUMBER OF SQUARE FEET OF FLOOR SPACE IN BUILDINGS REPORTED.

BUILDING.

The janitor is often blamed for things that are beyond his control. Several reasons may be given why the janitor should not be expected to do all that some people think he should do. The building may be so old that it is not in good condition. Again it may be too big for the efforts of one man. Some of the schools have more than one janitor but the majority have only one. It is quite possible that the working hours of the janitor are such that he does not get the proper amount of rest. Since fatigue may lead to ill health and an ill disposition, it may effect his work as well. It will have an effect upon his attitude toward the children, also. Especially is this true in the coldest part of the winter when the janitor must get to the building in time to get it heated before the children arrive.

The returned questionnaires show a varied number of square feet of floor space in the buildings reported. One hundred twenty principals did not attempt to guess at the number of square feet of floor space that the janitor had

under his care. An attempt was made, however, to find the average number of square feet of floor space in the buildings reported. These estimates are shown in Table No. LIX.

TABLE LIX. AVERAGE NUMBER OF SQUARE FEET OF FLOOR SPACE IN BUILDINGS REPORTED.

Interval	Frequency
1000 - 4200	10
4201 - 7400	21
7401 - 10600	41
10601 - 13800	22
13801 - 17000	26
17001 - 20200	26
20201 - 23400	8
23401 - 26600	11
26601 - 29800	7
29801 - 33000	9
33001 - 36200	3
36201 - 39400	2
39401 - 42600	1
42601 - 45800	0
45801 - 49000	0
49001 - 52200	1
52201 - 55400	0
55401 - 58600	0
58601 - 61800	0
61801 - 65000	0
65001 - 68200	0
68201 - 71400	0
71401 - 74600	0
74601 - 77800	0
77801 - 81000	2
Total	190

From the above Table LIX, the mean number of square feet of floor space in the buildings reported is 15939 square feet. This does not seem too large for one janitor

since he can sweep about 700 square feet of floor space per minute.

The approximate age of the building and the number of square feet of floor space sometimes make it impossible for one man to care for the building. There is a limit to what one janitor can do.

The schoolhouses represented in this study range from one year old to fifty-eight years old. Table LX shows the frequencies of the ages mentioned.

TABLE LX. APPROXIMATE AGE OF BUILDINGS.

Age Interval	Frequency
1 - 3.99	15
4 - 6.99	30
7 - 9.99	40
10-12.99	25
13-15.99	29
16-18.99	33
19-21.99	32
22-24.99	14
25-27.99	8
28-30.99	15
31-33.99	3
34-36.99	11
37-39.99	2
40-42.99	0
43-45.99	1
46-48.99	2
49-51.99	3
52-54.99	0
55-57.99	1
58-60.00	1
Total	264

The number of frequencies mentioned is 264. Forty-six principals did not answer the question.

The mean age of the school buildings represented in this study is 16.21 years.

Regardless of the age of the buildings most of them are in good repair. The answers to the question, "Are buildings in good repair?" are shown in Table LXI.

TABLE LXI. CONDITION OF BUILDINGS.

Good	250
Poor	30
Fair	10
Good and bad	1
No reports	19
Total	310

Table LXI indicates that 250, or 80.97 per cent of the buildings are in good repair. Thirty, or 9.68 per cent of them are not in good repair, while 10 or 3.23 per cent are reported to be in fair condition. Nineteen or 6.12 per cent did not answer the question.

In most of the smaller schools the janitor receives a flat rate for his services. In determining his salary Moehlman suggests,

"Every schedule should take into account the fact that old buildings are harder to heat and clean than new buildings. The newer build-

ings are usually equipped with better tools, such as vacuum cleaners and automatic stokers. These conditions should be recognized and proper classification developed."¹

It has been noted that some of the buildings of the smaller schools are quite old, in which cases the janitor may be doing all that can be done with the tools that he has for doing the work that is needed. A janitor in the older building, perhaps, earns more than one who is in a newer type of building of approximately the same size.

Few janitors do not have a working knowledge of the heating plant, but most of them do have a working knowledge of the heating plant. This fact is shown in Table LXII.

TABLE LXII. EXTENT TO WHICH JANITOR HAS WORKING KNOWLEDGE OF HEATING PLANT.

Janitors having working knowledge	295
Janitors not having working knowledge	5
Fair knowledge	2
Some knowledge	2
No heating plant	1
No reports	5
Total	310

More than 95 per cent of the principals reported that the janitors of their buildings had a working knowledge of the heating plant. One and six tenths per cent of them reported that their janitor did not have a working knowl-

¹ Moehlman, A. B., Public School Finance. Chicago. Rand McNally & Co. 1927. p.164

edge of the heating plant and .64 per cent reported "some" knowledge, while 1 principal reported no heating plant.

It is supposed that a great number of janitors do not know the principles that govern the heating of a building. Perhaps they can heat the building, but they might be able to do it more economically if they knew the principles governing heating. Too many of them think that all that is necessary is to shovel coal into the furnace and the rest will take care of itself.

The Indiana State Board of Health suggests:

"A good janitor must know the standard requirements of heating and ventilating, and must thoroughly understand the particular system of heating and ventilating under his care. He must know the purpose of fresh air intakes, foul air outlets and ducts, volume dampers, tempering coils, temperature control; in short, he must have a working knowledge of his tools. He must be able to intelligently adjust every part of the sanitary equipment of his building to a varying condition of weather and of use. In short, a janitor, in order to render efficient service, must be both mechanic and engineer. For this reason and in the interest of true economy he should be well paid for ability and efficient service."¹

There are cases in which the salary of the janitor will not even attract a man of ordinary intelligence. This, perhaps, is false economy.

It has been noted that most janitors have a working

¹ Indiana State Board of Health. School Janitors. Bulletin (no number or date given)p. 3

knowledge of the heating plant. It will also be noted that most of them are reported to have a working knowledge of the ventilating plant. A working knowledge and a scientific knowledge are not to be confused. If all janitors had both a working and a scientific knowledge of the heating and ventilating plants, then schools would be operated more economically so far as the janitorial duties are concerned. This greater economy could be had, with less effort on the part of the janitor, if he had both a working and scientific knowledge of heating plants. More buildings could be heated at an even temperature than are reported in Table XXXII.

TABLE LXIII. EXTENT TO WHICH JANITOR HAS WORKING KNOWLEDGE OF VENTILATING PLANT.

Janitors having working knowledge	274
Janitors not having working knowledge	22
Janitors having fair knowledge	3
Have system not in use	1
Not much working knowledge	1
Doubtful	1
Questionable	1
No reports	8
Total	310

Fewer janitors are reported to have a working knowledge of the ventilating plant than the heating plant. Two hundred seventy-four or 88.39 per cent are reported to have a working knowledge of the ventilating plant as compared to more than 95 per cent having a working knowledge of the heating plant. In a number of schools the ventilating systems

must take care of themselves. The janitor fires the furnace and gets the rooms to a certain temperature without as much as thinking about the ventilating system. Nature has its own way of ventilating, which, in a great number of cases, is the means of taking care of the schoolhouse ventilation.

It is doubtful whether a great number of janitors have a scientific knowledge of ventilation. Ventilating systems are put into buildings according to the kind of heating systems to be used. There are principles which plainly state where and how the ventilating flues and vents shall be placed. They should be built according to the seating capacity of the room.

All janitors do not employ the same amount of time in the care of the school building. Some arrive at the building earlier than others. Some leave the building earlier than others. The following two Tables, numbers LXIV and LXV, will indicate the time the janitors arrive at and leave the building.

TABLE LXIV. TIME JANITOR ARRIVES AT BUILDING.

Time of arrival	Frequency
3:30 A.M.	2
4:00	15
4:30	5
5:00	99
5:30	33

TABLE LXIV (continued)

Time of arrival	Frequency
6:00	95
6:30	31
7:00	17
7:30	4
"Janitor lives here"	2
No reports	7
Total	310

TABLE LXV. TIME JANITOR LEAVES BUILDING.

Time of leaving	Frequency
4:00 P.M.	5
4:30	15
5:00	113
5:30	61
6:00	72
6:30	7
7:00	7
7:30	2
8:00	6
8:30	0
9:00	2
9:30	2
10:00	1
No reports	17
Total	310

More janitor arrive at the school building at 5:00 o'clock than at any other time. Ninety-nine of them or 31.88 per cent arrive at this time while 95 or 30.58 per

cent arrive at 6:00 o'clock. More janitors leave the building at 5:00 O'clock than at any other hour. One hundred thirteen or 36.38 per cent of them leave at this hour. Sixty-one or 18.64 per cent leave at 5:30 and 72 or 22.86 per cent leave the building at 6:00. Fifteen or 4.83 per cent of the janitors arrive at the building at 4:00 o'clock and a like number leave the building in the evening at 4:30 o'clock.

Only a small per cent of the janitors arrive at the building very early in the morning and only a small per cent leave the building very late in the evening. Likewise a small per cent of the janitors arrive late at the building and a small per cent leave late in the evening.

Most janitors arrive at the school building between the hours of 5:00 and 6:30 o'clock and most of them leave the building between the hours of 4:30 and 6:00 o'clock. Most janitors, then, work about eleven or twelve hours per day.

While checking the questionnaires, the time of arrival was noted and also the time the janitor left the building. From the two items thus specified, another Table LXVI was derived to indicate the actual time of each janitor at the building. The hours, vary, but it will be noted that the most of the janitors spend from eleven to twelve hours per day in performing their duties.

TABLE LXVI. ACTUAL TIME THE JANITORS SPEND AT THE BUILDING.

Time at building in hours	Per cent of total	Frequency
7	.32	1
8	.32	1
8.5	.32	1
9	.64	2
9.5	1.61	5
10.0	3.58	8
10.5	5.58	19
11.0	20.48	63
11.5	9.92	31
12.00	29.52	92
12.5	5.45	17
13.0	7.06	22
13.5	2.90	9
14.0	3.22	10
14.5	.32	1
15.0	.96	3
15.5	.64	2
16.0	1.61	5
Stays here	.64	2
No reports	5.15	16
Total	99.12	310

Most janitors work about 12 hours per day according to Table LXVI. The second largest number work eleven hours per day and the third largest, eleven and one-half hours.

We have noted that a number of janitors do not use sweeping compound at all times. In most of these cases, where the janitor does not use it, the floors are oiled. Most of the halls and corridors are of wood, and we may assume that they are oiled, also. Table LXVII will show

the materials from which the halls and corridors are constructed.

TABLE LXVII. MATERIALS USED IN THE CONSTRUCTION OF HALLS AND CORRIDORS.

Material used	Frequency
Wood	170
Wood and cement	49
Cement	46
Composition	23
Wood and composition	4
Wood, cement and composition	2
Wood and terrazzo	2
Terrazzo	2
Linoleum	2
Cement and composition	1
Tile and composition	1
Smooth pebbles	1
No reports	8
Total	310

Most of the halls and corridors are constructed of wood. Some of wood and cement or other materials. Twenty-two are constructed of composition material. Forty-six are constructed of cement. In most cases the cement floors are probably painted. In such cases sweeping compound should be used. Other materials are used in the construction of the halls and corridors which should require the use of sweeping compound. Sweeping compound may be used on the oiled floors as well.

A number of schools relieve the janitor of the re-

responsibility of closing and locking the windows and adjusting the blinds in the evening. In a number of schools the teacher adjusts the blinds and locks the windows. Other schools do not relieve the janitor of this responsibility, as Table LXVIII will indicate.

TABLE LXVIII. EXTENT TO WHICH JANITOR CLOSES WINDOWS AND ADJUSTS BLINDS IN THE EVENING.

Janitor closes windows and adjusts blinds	197
Janitor sometimes closes windows and adjusts blinds	49
Janitor does not close windows and adjust blinds	28
No reports	36
Total	310

SUMMARY. The average number of square feet of floor space for which the janitor is responsible is about 15,939.

The average age of the building in which the janitor works is 16.21 years old; however most of the buildings are in good repair.

It seems that most janitors have a good working knowledge of the heating and ventilating plants; however a smaller number know about the ventilating systems.

Janitors average about 12 hours of work per day.

The halls and corridors of most of the buildings are of good.

Most janitors are responsible for the looking of windows and the adjusting of window blinds in the evening.

141, or 45.48 per cent of the janitors do not receive extra pay for the duties performed during extra-curricular activities in the evening.

CHAPTER XI

THE JANITOR, EXTRA-CURRICULAR ACTIVITIES AND SUPERVISION OF CHILDREN

Practically all schools have extra-curricular activities. The janitor must be present to care for the building at such times as these extra-curricular activities occur. Most schools have a number of basket ball games besides plays and entertainments of other varieties. Many janitors receive extra compensation for such duties while such activities are in progress, others do not receive extra compensation.

TABLE LXIX. EXTENT TO WHICH JANITORS RECEIVE EXTRA COMPENSATION FOR EXTRA-CURRICULAR ACTIVITIES.

Janitor does not receive extra compensation	141
Janitor sometimes receives extra compensation	96
Janitor does receive extra compensation	65
Janitor seldom receives extra compensation	1
Special janitor for extra-curricular activities	1
No reports	6
Total	310

Of the total of 310 schools represented in this study
curricular duties performed. Only 6 did not report to the

141, or 45.48 per cent of the janitors do not receive extra pay for the duties performed during extra-curricular activities in the evening. Ninety-six or 30.97 per cent of them are reported to receive extra pay "sometimes", and 65 or 30.97 per cent do receive extra pay for their extra-duties. Only 1.93 per cent did not answer the question. It seems that the trustee does not pay many of the janitors for the extra-curricular activities, but the organization sponsoring the activity usually pays the janitor for his duties.

TABLE LXX. FROM WHOM THE JANITOR RECEIVES PAYMENT
FOR EXTRA-CURRICULAR
ACTIVITIES .

payment is made by	Frequency
Organization sponsoring activity	139
Trustee	14
Trustee and organization	3
Organization when out of school activity	1
No reports	153
Total	310

Table LXIX indicates that 141 schools do not pay janitor for any extra-curricular activities. That being the case then there are 189 schools that so pay the janitor either a part of the time or all the time for the extra-curricular duties performed. Only 6 did not report to the

question.

Of the 169 schools that so pay the janitor for the extra duties performed, 139, or 82.84 per cent are paid by the organization sponsoring the activity, while 8.28 per cent are paid by the trustee. Of the total number of returns, 153 schools did not answer this question; this number corresponds closely to the total of the number reporting "no" plus the number not reporting in Table LXIX. Those reporting "no" in Table LXIX would necessarily leave blank, the question considered in Table LXX.

Often duties aside from those set forth in the janitor's contract¹ are given the janitor by the principal of the school. One of these duties is to supervise the children at different times during the day. Tables LXXI and LXXII indicate the extent to which the janitor does supervise the children.

TABLE LXXI. EXTENT TO WHICH JANITOR SUPERVISES CHILDREN DURING LUNCH HOUR.

Janitor does not supervise during lunch hour	207
Janitor sometimes supervises during lunch hour	43
Janitor does supervise during lunch hour	42
No reports	18
Total	310

¹ See appendix for janitors' contract.

TABLE LXXII. EXTENT TO WHICH JANITOR SUPERVISES
CHILDREN AT ANY OTHER TIME BE-
SIDES LUNCH HOUR

Does not supervise	175
Janitor does supervise	85
No reports	50
Total	310

Of the total of 310 returned questionnaires, 13.87 per cent of the janitors supervise the children "sometimes" during lunch hour, while 13.58 per cent supervise the children at different times during the day. The different times listed by the principals are given in Table LXXIII.

TABLE LXXIII. TIME OF DAY WHEN JANITOR SUPERVISES
CHILDREN

Rest periods	36
When necessary	8
On playground	1
Before 8:00 A.M.	1
After school when busses leave	1
Boys of upper grades in gym.	1
Activity period	1
Uses own judgment	1
Athletic activities	1
Grades	1
Corridors	1
Between periods	1
Evenings after school	1
When teachers are ill he stays in Assembly	1
Total	58

Of the janitors that do supervising of children, most of them supervise during the lunch hour or during the rest periods, or recesses. In a great number of schools the lower grades are taught by lady teachers. These teachers may supervise the girls during the rest periods but some arrangements must be made for someone to supervise the boys in the rest rooms during this time. A number of janitors assume this duty, as indicated in Table LXXIII.I

There are times when the janitor needs to enforce rules of the school. Sometimes he must even inflict corporal punishment upon the pupils to secure the desired results.

TABLE LXXIV. EXTENT TO WHICH JANITOR USES CORPORAL PUNISHMENT IN DISCIPLINING

Never	347
Uses corporal punishment	45
Seldom	3
Yes and no	1
No reports	18
Total	310

It may be noticed that most janitors do not supervise the children. Forty-five of those who do supervise the children may use corporal punishment to enforce the rules of the school.

Some of the remarks which followed the question in the questionnaire are; has not, but may do so by authority and

consent of the principal; has done so but without permission; brings them to office; warns children; sometimes sends boys from toilets; in extreme cases; in a very limited way; does not whip, but may shake an offender; warns and reports; threatens them and usually gets results with grade children.

There are always problems of discipline. Some janitors, like teachers, may not be successful in correcting children. The personality of the janitor must be taken into consideration when granting permission to correct children. If such is the case it is probably better not to have the janitor supervise children.

SUMMARY. Most janitors do not receive extra pay for their extra-curricular activities and duties. Some of them do, however, and for the most part are paid by the organization sponsoring the activity. Especially is this true if the organization is outside of the school activities.

A number of janitors supervise children. Most of them supervise during the lunch hour and in the rest rooms during rest periods. Generally speaking, they do not inflict corporal punishment upon the children.

CHAPTER XII

CONCLUSIONS

1. Most janitors of the smaller schools of Indiana are selected by trustees who do not consult with the principals of the schools. At the same time most of the janitors are supervised by the principal. The janitors' contract provides that the supervision shall be under the direction of the principal.

2. Few janitors are employed for the entire year.

3. Janitors, in general, do not order their supplies.

4. Practically all janitors have the interests of the pupils and teachers at heart and are interested in the school.

5. Janitors who have, or have had, children in school are more sympathetic towards the pupils and teachers than those who have not had children in school. Young men are usually better than older men.

6. The median salary of the janitor is ninety-one dollars and twenty-one cents. The mean salary is seventy dollars and seventy-eight cents. Janitors receiving a low wage do not earn as much as those receiving a higher wage.

There is no set method of determining a janitors salary, neither is there any statute regarding the qualifications of the janitor.

7. About 30 per cent of the janitors have a political affiliation that acts as a factor in their employment. These janitors enjoy a higher salary than those who do not have such political affiliation. This group has a less interest in school than those who have no political affiliations.

8. Most buildings are kept at a uniform temperature. Experts may disagree as to the proper room temperature because humidity and velocity of air in the rooms must be considered. There is a general agreement, however, that a uniform temperature is necessary for the health of the school child. If an even temperature cannot be maintained then the cause should be found and remedied at once.

9. Training schools have been held by Purdue University, for janitors and caretakers.

10. Most of the principals reported that the toilets and lavatories of their schools were kept clean.

11. Practically all classrooms are swept after school, however, much sweeping is done during the day. Dusting is not done regularly.

12. Buildings are generally disinfected when ever they need it, and at regular intervals.

13. Most janitors of the smaller schools in Indiana do not spend much time in keeping the grounds clean. They do not beautify the buildings and grounds.

14. Outside of the windows is not washed as often as the inside.

15. The average age of the buildings in this study is 18.21 years. They range from one to fifty-eight years old.

16. Most school buildings are in good repair. Nine and sixty-eight per cent are not in good repair.

17. More janitors arrive at the school building at 5:00 A.M. than at any other hour. More janitors leave the building at 5:00 P.M. than at any other hour. The average time that the janitor works is 12 hour per day. Most janitors work more than the average during the coldest part of the winter.

18. Janitors who receive pay for their extra-curricular activities, receive it from the organization sponsoring the activity, except in 14 cases out of the 310 schools when the trustee pays for the extra duties performed.

19. Few janitors supervise the children, however, some supervise during the lunch hour, and during the rest periods in toilet rooms.

CHAPTER XIII

RECOMMENDATIONS

1. Trustees should consult with the principal of the school regarding the hiring of a new janitor, whenever possible.

2. The arguments in the preceeding pages are for year round employment of the janitor, rather than just the school year.

For more efficient service the janitor should enjoy an indefinite tenure. He should be retained in the system as long as he gives good and satisfactory service.

3. Janitors should feel the responsibility of ordering and maintaining a stock of supplies. They know more about the use of supplies and the quantity needed.

4. Teachers, pupils and especially the principal, should gain the confidence of the janitor, thus assuring cooperation.

5. Trustees should try to hire a young man rather than an older man, and a married man rather than a single man.

6. The trustee should obtain the best man possible for janitor. The janitor should be held strictly responsible for school property and should be paid enough to war-

rent his interest in the school, and the performance of his duties.

Standards of health, habits, and training should be fixed by legislation.

Certain schedules should be worked out that would classify each building. Each building should be divided into units of work, and the janitor paid according to the units under his care. This will tend to standardize janitor's wages and the amount of work that he has to do.

7. The trustee should hire the man for janitor who has the highest qualifications rather than to be influenced by politics.

8. Janitors should take advantage of short courses offered by state universities, either at their own expense or the expense of the school corporation.

9. Janitors would do well to clean the porcelain fixtures more frequently to insure proper sanitation.

10. Floors should be swept at the close of the day. Sweeping compound should be used to allay dust even though the floors are oiled. Furniture should be dusted each morning before school opens. Dusting should be done with a duster that will hold the dust. Dry dusting should not be permitted. Principals should encourage the correct practices and even try to inspire the janitor to such actions. Blackboards should be cleaned whenever necessary. The teacher should be the judge in regard to existency of necessity.

Classrooms and floors should be oiled. Experiments show that proper oiling reduces the bacteria count in the air.

11. Toilets should be disinfected daily.

12. The janitor should assume the responsibility to care for the grounds and beautify the school premises whenever possible.

13. Trustees should furnish the proper equipment for washing windows, and see that they are washed at regular intervals. Janitors should be equipped and ready to wash windows in winter, when a suitable day presents itself.

14. Janitors should be paid for the extra duties performed either by the trustee or the organization sponsoring the activity.

15. It is the teachers work to supervise and teach children rather than to expect this work to be done by the janitor. If such duties are delegated to the janitor, the principal must consider his personality and capability of performing such duties before granting the janitor supervisory powers.

APPENDIX

JANITORS CONTRACT
(copy)

This agreement, made and entered into between the Township School Corporation ofTownship, in County, and State of Indiana, by, the Township trustee of said Corporation, party of the first part, and, party of the second part.

Witnesseth, That saidhereby agrees to act as janitor of theschool building for a consideration ofdollars per calendar (or school) month, to be paid semi-monthly, for the school year (or calendar year) beginning, 19..., and ending, 19....

Said party of the second part agrees to perform faithfully all duties of such janitor, as specified in the rules of the County Board of Education or by the Township Trustee, under the supervision of the principal as directed by the Township Trustee.

Said party of the second part agrees not to leave the school building premises on school days, between eight-thirty o'clock A.M. and the close of school in the evening, with the

exception of one hour between eleven o'clock and twelve o'clock noon, unless there should arise great need of temporary absence, which may be approved by the principal.

Said School Corporation by said Township Trustees, agrees to pay said party of the second part for services as janitor of theSchool Building the salary indicated above.

PROVIDED, That it is hereby agreed that the principal of theSchool Building will make a weekly report to the Township Trustees as to the condition of the building, and

PROVIDED, That in case said party of the second part should be discharged by the Township Trustees for the failure to carry out the terms of this contract he shall not be entitled to any compensation after notice of dismissal.

IN WITNESS WHEREOF, We have hereunto subscribed our names thisday of , 19.. .

.....Township Trustees
Janitor.

GALARY (Questionnaire)

NAME OF SCHOOL _____ LOCATION _____

PRIN. OF SCHOOL _____ TOTAL ENROLLMENT _____

INSTRUCTIONS.

This questionnaire has been constructed to take a minimum amount of your valuable time. Simply make a check mark in the blank that is suited to your situation under the different heads. This is to be based upon the Trustees who hired the Teachers and janitor for this school year.

Did your trusteeship change with the past election? Yes _____ No _____

Did he serve two terms? Yes _____ No _____

Did party control change? Yes _____ No _____

SUPERVISION.

Who supervises janitors' work? Prin. _____ Trustee _____ Teachers _____ Pupils _____

Who gives orders to janitor? Prin. _____ Trustee _____ Teachers _____ Pupils _____

Are these orders obeyed? Yes _____ Sometimes _____ Seldom _____ No _____

TENURE

How long has your janitor been in your school? 1 year _____ 2 years _____ 3 years _____ 4 years _____ More than 4 _____

Upon what does tenure depend?

Quality of service _____

Influence on community _____

Popularity _____

Outside forces _____ If so what force _____

SUPPLIES

Does janitor order janitorial supplies? Yes _____

Sometimes _____ Seldom _____ No _____

If not who does? Prin. _____ Trustee _____ Teachers _____

Are adequate supplies furnished? Yes _____ No _____

Does janitor use supplies furnished? Yes _____ No _____

ATTITUDE

Is janitor in sympathy with pupils? Very much _____ Somewhat _____ No _____

Does janitor cooperate with Prin. and teachers?

Very much _____ Somewhat _____ No _____

Is janitor in sympathy with teachers? Very much _____

Somewhat _____ No _____

Is janitor in sympathy with school? Very much _____

Somewhat _____ No _____

Does janitor have children in school? Yes _____ No _____

SALARY

How much does janitor receive per month \$ _____
 Is janitor paid according to tenure? Yes _____ No _____
 Is janitor paid according to skill and efficiency?
 Yes _____ No _____
 Is janitor paid the same from year to year? Yes _____ No _____
 What is the salary of the lowest paid teacher in building? \$ _____

APPOINTMENT

Is janitor given mental examination before appointment?
 Yes _____ No _____
 Is janitor given physical examination before appointment? Yes _____ No _____
 Has janitor a political pull? Yes _____ No _____
 Is janitor related to trustee? Yes _____ No _____
 Is janitor an intimate friend of trustee? Yes _____ No _____
 Is janitor appointed upon recommendation of Principal?
 Yes _____ No _____
 Is lowest bidder given janitorship? Yes _____ No _____
 Other means of determining who shall be janitor _____

(Note: If examination is given, please enclose copy of blank)

HEALTH

Does janitor keep building warm at all times? Yes _____ No _____
 Is building equipped with thermostat? Yes _____ No _____
 If not, does janitor make periodical inspection of the thermometers? Hourly? _____ Two hours _____ Three hours _____
 Intervals _____
 Does janitor keep toilets and lavatories clean?
 Yes _____ No _____
 Are urinals of boys toilets disinfected and flushed daily? Yes _____ No _____
 When does janitor sweep rooms? Before school _____
 During school hours _____ After school _____
 When does janitor sweep corridors and halls? Before school _____
 During school hours _____ After school _____
 How often? 1 _____ 2 _____ 3 _____ 4 _____ times daily.
 What does janitor use in sweeping? Broom _____ Brush _____
 Vacuum cleaner _____
 Does janitor dust school furniture (desks, bookcases etc.) each time he sweeps? Yes _____ No _____
 With what does he dust? Oiled duster _____ Damp cloth _____
 Feather duster _____ Dustless duster _____ Treated cloth _____
 Dry cloth _____ Mop _____ oiled brush _____ Medicated cloth _____
 Wool duster _____ String duster _____
 How does janitor clean blackboards? Kerosene _____ Water _____
 Other materials _____
 How often? Daily _____ Twice weekly _____ Weekly _____ Twice monthly _____

Does janitor use floor compound for sweeping ? Yes ___
 Sometimes ___ NO ___
 Is an adequate supply kept on hands at all times?
 Yes ___ No ___
 Have you had any absences due to janitorial service?
 Yes ___ No ___ Cause ___
 Are floors oiled ? Yes ___ No ___ How often ? Monthly ___
 Twice during semester ___ Each year ___
 Have you ever made tests for germs on floors ? Yes ___
 No ___ Your findings ___
 Do you think oiled floors less conducive to disease than
 Varnished floors ? Yes ___ No ___
 Are lavatories cleaned twice daily? ___ Daily ___ Twice
 Weekly ___ Weekly ___ Twice monthly ___ Monthly ___
 Are all toilets within the building? Yes ___ NO ___
 Does janitor keep sidewalks clean? Yes ___ No ___
 Does janitor keep grounds clean ? Yes ___ No ___
 Does janitor beautify building and grounds? Yes ___ NO ___
 How often is building thoroughly disinfected ? Weekly ___
 Monthly ___ Each Semester ___ Each year ___ When
 occasion arises ___
 How often are windows washed? Weekly ___ Monthly ___
 Each Semester ___.

BUILDING.

What is the approximate number of square feet of floor
 space in building? _____ (Pupils might measure)
 Approximate age of building _____
 Is building in good repair? Yes ___ No ___
 Does janitor have a working knowledge of heating plant?
 Yes ___ No ___
 Does janitor have a working knowledge of ventilating
 plant ? Yes ___ No ___
 Average time janitor arrives at building _____ o'clock.
 Average time janitor leaves the building _____ o'clock.
 Are floors of corridors and halls of wood? ___
 Cement ___ Composition ___
 Does janitor see to closing windows and adjusting
 shades in evening ? Yes ___ Sometimes ___ No ___

MISCELLANEOUS

Does janitor receive extra pay for extra-curricular
 activities held in evenings ? Yes ___ No ___ Sometimes ___
 Who pays this ? Trustees ___ Organization sponsoring
 activity ___
 Does janitor have helpers? Yes ___ No ___ How many ___
 Do you want a summary of my findings ? Yes ___ No ___
 Does janitor ever touch children in disciplining
 them? Yes ___ No ___

Below is a list of counties from which returns were received. The numbers following the name of the county indicate the number of schools reporting from that county.

Adams	3	Kosciusko	3
Allen	8	Lagrange	3
Bartholomew	1	Lake	2
Benton	6	Laporte	5
Blackford	3	Lawrence	4
Boone	7	Madison	1
Brown	2	Marion	6
Carroll	5	Marshall	3
Cass	8	Martin	2
Clay	5	Miami	5
Clinton	3	Monroe	2
Crawford	2	Montgomery	9
Davies	4	Morgan	5
Dearborn	5	Newton	5
Decatur	6	Noble	6
Dekalb	3	Orange	1
Delaware	3	Owen	4
Dubois	3	Parke	2
Elkhart	7	Perry	2
Fayette	1	Pike	3
Fountain	3	Porter	4
Franklin	1	Posey	7
Fulton	3	Pulaski	3
Gibson	3	Putnam	5
Grant	7	Randolph	5
Greene	5	Ripley	3
Hamilton	5	Rush	3
Hancock	8	Scott	1
Hendricks	3	St. Joseph	3
Harrison	4	Switzerland	1
Henry	3	Tippecanoe	2
Howard	4	Vermillion	1
Huntington	9	Vigo	2
Jackson	5	Wabash	2
Jasper	2	Washington	4
Jefferson	2	Wayne	1
Jennings	5	Wells	2
Johnson	2	White	7
Jay	4	Whitley	3
Knox	1	Questionnaires not addressed	14
		Total	310

Number of counties listed above is 79.

Two hundred seventy-eight schools reported the number of children in the school. The total of these schools represents 76,844 pupils. From the figures stated above there is an average of 276.40 pupils per school.

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(1921)

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